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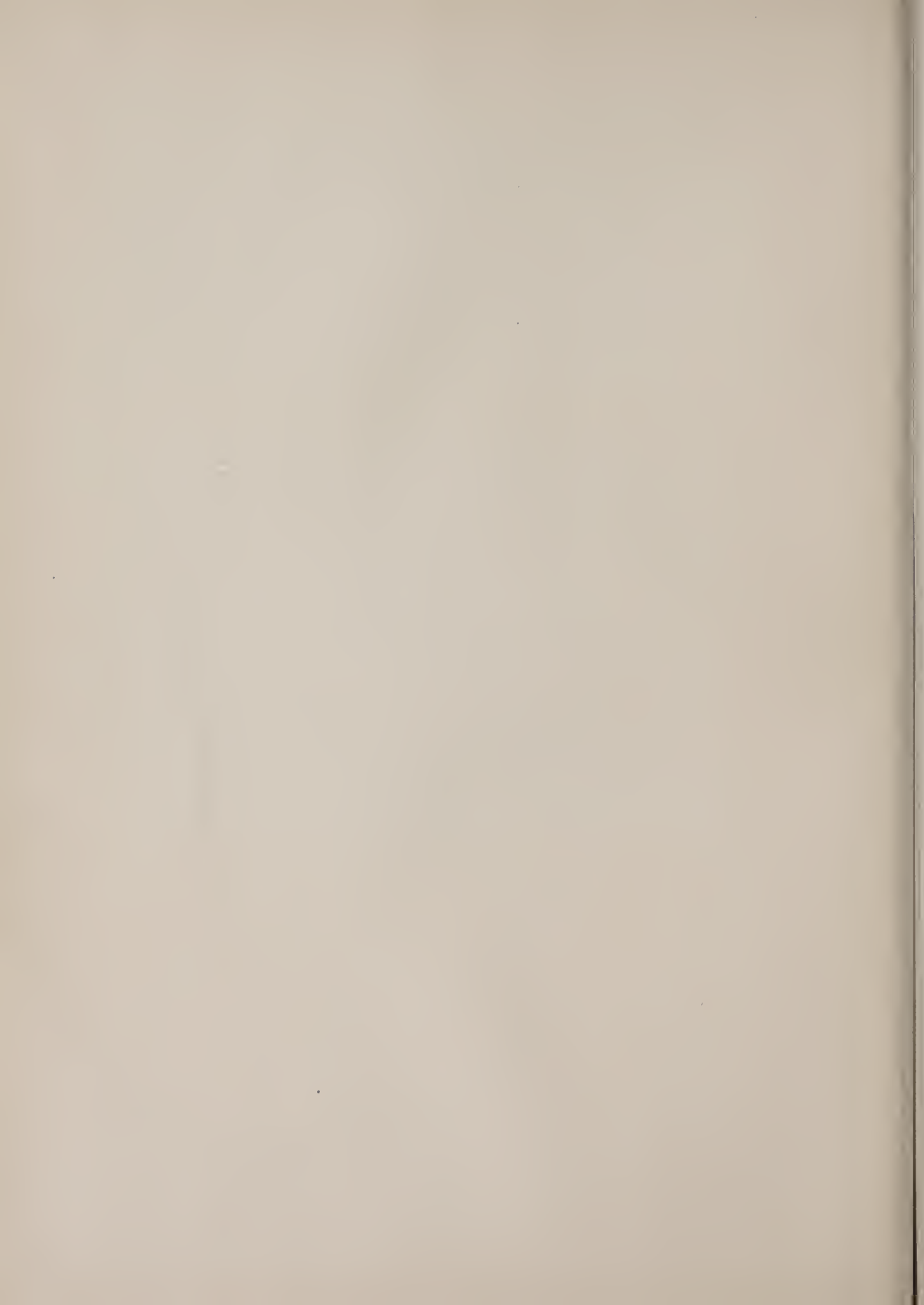
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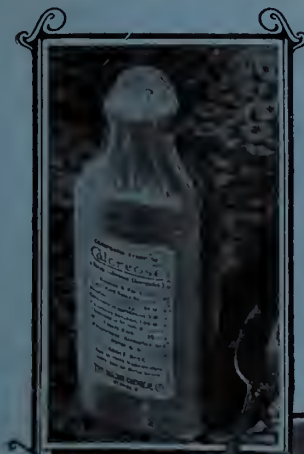
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RECENT ADVANCES IN INTERNAL MEDICINE.*

By H. B. MULHOLLAND, M. D., University, Va.

In the time allotted to me I shall not attempt to make a complete analysis of the important advances in this field during the previous several years, but rather to outline what are, in my mind, substantial building stones added to the ever increasing infinite structure of medical knowledge. In some cases these stones indeed may seem to be somewhat loosely placed, but their future possibilities stir the imagination and open up a fascinating field for workers in medicine.

The most important contribution to this field since insulin, I think we will agree, is the work of Minot and his co-workers on liver diet in pernicious anaemia. So much has been written that I will only call attention to the more recent developments; namely, the investigations of Castle¹ in which he has demonstrated that the gastric secretions of a normal individual when exposed to an ordinary hamburger steak and the mixture filtered, the filtrate will produce an identical response in the reticulocytes of the blood, as will liver or liver extract. Sturgis and Isaacs² have demonstrated that feeding of desiccated hogs' stomach to these patients will also induce the same favorable reaction. These results seem to indicate that the gastric mucosa of patients suffering from pernicious anaemia is no longer capable of secreting substances which take part in the metabolism of the protein molecule, forming from it either an amino acid, which directly stimulates hematopoietic function, or which is intimately concerned in the synthesis of a hormone necessary for stimulating the bone marrow to increased or normal function. While the lack of hydrochloric acid is an important factor it may be absent for years before the clinical disease develops and the above results could not be obtained when

the meat was treated with commercial pepsin plus hydrochloric acid. Castle has also collected several cases of pernicious anaemia, which have followed more or less complete gastrectomies.

Porter³ and his collaborators in Richmond have made a definite contribution to the studies of this disease in their production of the potent aqueous extract of liver for use in the treatment of this condition.

Berglund,⁴ working with experimental anaemia, has obtained excellent results in the secondary type by feeding animals with liver obtained from the fetus of a calf. This is the site of active blood formation during the intrauterine life of this animal, and these results have led him to state that secondary anaemia is due to a deficiency in hemoglobin formation, the building up of which is aided by the feeding of this particular type of liver. On the other hand he believes that pernicious anaemia is the result of a failure in the development of red blood cells, even in the presence of an adequate hemoglobin supply.

The endocrines, a field which one enters with fear and trepidation, have come in for their full share of work. Following Collip's isolation of the active principle of the parathyroid gland, various conditions in which hypofunction exists have been reported. Barr⁵ has recently reported a clinical syndrome associated with hyperfunction of these glands, characterized by muscular weakness, areas of rarefaction in various bones, susceptibility to spontaneous fractures, multiple cystic bone tumors suggesting histologically giant cell sarcoma and an increase in the blood calcium. Removal of a parathyroid tumor resulted in the alleviation of the symptoms and a return of the pathological picture towards normal.

A somewhat analogous condition apparently related to the pancreas has been described from several sources. Cases have been reported showing attacks of unconsciousness, sweating, weakness, mental deterioration and incoordination, all of these symptoms occurring when

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the individual goes without food for varying limits of time and invariably following a lowered blood sugar. Several of these individuals have shown a tumor of the pancreas at operation and the syndrome has been attributed to hyperinsulinism.

The separation of the posterior pituitary substance into two factors: One, an oxytocic principle which causes contraction of the uterus, and the other a pressor substance acting on the blood pressure and affecting water metabolism by Kammi⁶ is a noteworthy contribution.

Promising work has been done by Koehler,⁷ who believes he has succeeded in extracting from the suprarenal cortex a substance which is secreted by this portion of the gland. Addison's disease is a well known syndrome, but we are all familiar with patients who present the picture of so-called asthenia, muscular weakness, vasomotor instability, a relatively low blood pressure and a slightly lowered metabolism, which does not respond to thyroid administration, a condition which Koehler calls hyposuprarenalism. These patients under treatment with the above extract have been strikingly improved, symptomatically, the blood pressure raised and basal metabolic rate returned to its normal level. This extract is not yet obtainable, but is being tested out in several clinics.

The apparently shopworn field of infectious diseases is by no means sterile, as evidenced by the discovery of tularemia by Francis⁸ and the establishment of *B. Abortus* infection in human beings as a clinical entity. Already the latter with its protean manifestations has stimulated us to consider this as a possible diagnosis in any case of unexplained fever of long duration.

Probably no subject is now receiving more attention than that related to those infinitesimal, but highly important constituents of the normal diet, the so-called vitamins, or accessory food factors. Certainly the literature concerning these factors in food leads all other subjects in volume. While our knowledge was formerly confined to the part played by these substances in diseases such as beriberi, scurvy and rickets, we now find that additional factors are being discovered, and some of those considered to be units heretofore are being broken up into several separate parts.

Vitamin A, which has long been known to

cause a disease in animals living on a diet deficient in its content, characterized by infection of the eyelids, loss of epithelium and glandular tissue with subsequent keratinization of these structures which was given the name of xerophthalmia, has recently been shown to have a direct bearing on the susceptibility of an organism to infection.

Tyson and Smith,⁹ working with rats, found that a lack of this factor in the diet led to an atrophy, loss of epithelium and infection in the mouth, trachea, bronchi and genito-urinary tract of these animals.

Green and Mellanby,¹⁰ working in England, disagree with the view that Vitamin A is a growth producing substance, but assert that the primary reason growth is not obtained is that the animal develops an infection. In their animals bronchopneumonia was common and other infections were uniformly induced by feeding them with a diet adequate except for this substance. Being found, as it is, in milk, butter, egg yolk, cod liver oil and green vegetables, a deficiency of this kind could be a common occurrence in the lower strata of society. Applying these results to human beings these investigators fed patients having puerperal sepsis¹¹ with food containing a high concentration of this Vitamin. In a short series of five cases reported all made a complete recovery, while in a control series 98 per cent of the patients died. Incidentally all of the recovered patients had positive blood cultures.

Interesting results have been reported by Van Leersum¹² and others in regard to urinary tract infection and stone formation in animals fed on a diet deficient in Vitamin A. The controls on a normal balanced diet did not show any stone formation, while the others in a large percentage of the cases showed calcium stones, hematuria, pyonephrosis, dilatation of the ureters, and increased calcium deposits in the urinary tubules.

Berglund and Keefer,¹³ working in China, found that in patients with a history of dietary deficiency, diarrhoea, and a secondary anaemia, the administration of cod liver oil resulted in a marked reticulated cell response, which indicates increased bone marrow activity. As much as 30 per cent was obtained in one case, with rapid amelioration of the disease. They believe that this form of treatment is particularly applicable to those anaemias associated with dietary deficiencies and pregnancy.

Vitamin B is now separated into two factors, one which apparently is responsible for beriberi, war edema, and all cases of nutritional edema, and the other known in this country as Vitamin G and the P—P factor. Goldberger¹⁴ finally thought that a deficiency in the latter, which occurs in high concentration in yeast, was responsible for the development of pellagra, with excellent evidence to substantiate his contention. Perhaps the recent work of Hartwell,¹⁵ who showed that various amino acids required different concentrations of this factor to properly metabolize these, would satisfy those who hold that protein deficiency is the primary cause of pellagra. Yeast which contains the P—P factor in high concentration is now being used successfully in the treatment of this condition.

This Vitamin seems also to be vitally concerned in the maintenance of a normal appetite. Rowland and Browning¹⁶ have reported atony of the gastrointestinal tract, visceroptosis and a lessened gastric motility as a result of deficiency in this factor. Bartlett,¹⁷ in studying anorexia in children, found that the functional type responded most readily to liver feeding, and the increased appetite constantly found in patients being treated for pernicious anaemia with liver is thought to be due to its high Vitamin B content.

Sure¹⁸ finds that pregnant rats fed on a diet deficient in this Vitamin will give birth to offspring with serious lesions. It is considered important to supply the pregnant mother with an adequate amount of the Vitamin which is contained in highest concentrations in yeast, carrots, milk, fruit juices and liver.

Vitamin D, which is closely identified with rickets, has been found to affect the calcium and phosphorus metabolism. Changing the ratio of these two minerals and Vitamin D in the diet is stated by Grant¹⁹ to change the permeability of the intestinal walls of bacteria. It is concerned in the development of dental caries, limiting its spread and preventing new foci according to Mellanby.²⁰ Pregnancy with its drain on the calcium stores should be protected by not only a diet high in calcium, but one which is well stocked with this Vitamin.

The work of Evans and Bishop has definitely connected the lack of Vitamin E with sterility in animals. This Vitamin is found principally in lettuce, cereals, fresh meats and egg yolk. It is realized that much of the above quoted

work on Vitamins is in the experimental stage, but it seems highly probable that careful analysis of many of the so-called functional disorders as well as disease states in human beings may link them up with dietary deficiencies, the correction of which may be extremely beneficial. The application of these studies to human disease holds forth much promise.

I cannot close without giving brief consideration to some of the mechanical and physical aids which are available to us as physicians.

The electrocardiograph has given us a more intimate conception of the physiology and pathology of heart disease, indicating more clearly the extent of the damage in a given case upon which we can base, with sound reasoning, the prognosis of various diseases of the heart and the limitations of the patient.

Bronchoscopy enables us to make a more accurate diagnosis of diseases of the lungs, being particularly useful in suspected cases of abscess, foreign bodies, bronchiectasis, and carcinoma. It is not without value in the treatment of these conditions.

Perhaps the most valuable recent contribution by the X-ray is its use in conjunction with the Graham-Cole dye test, by means of which gall-bladder disease can be diagnosed in its early stages.

The field of Internal Medicine is an active one and it is wide open to those who would explore its vast expanse. There still remain many stones to be laid and foundations to be made more secure.

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RECENT PROGRESS IN SURGERY.*

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In the dictionary of surgery "change" is not always synonymous with "betterment." With minds wide open to the reception of ideas that are new we must guard against embracing them merely because they are new, but we must also guard against discarding old ideas merely because they are old.

The greatest improvement in the treatment of WOUNDS was established during the World War with the discovery of mechanical decontamination of wounds by excision of the injury within the first few hours, before the stage of inflammation had been reached. This practice is now so well established that we uniformly expect to have primary wound healing with the consequent saving of life and limb and the prevention of crippling deformities.

The treatment of BURNS has undergone marvelous improvement. The local problem is to prevent the absorption of the toxic burned tissue, rendered insoluble through the application of a solution of tannic acid varying in strength from 2 to 5 per cent. This may be sprayed on by the atomizer every half hour or hour for the first two days, and results in the formation of a crust made up of the precipitated burned tissue. After two or three days the crust will be hard, and acts as a splint and a dressing which excludes contamination from the atmosphere. From the very beginning, the burned area should be exposed to warm air. The bed clothing can be held off the patient over a frame-work under which electric bulbs may be kept burning to furnish heat.

The systemic problem from the beginning is to combat shock and maintain normal fluidity

of the blood. It is well known that following every extensive burn there is great concentration of blood. This may be combated by the administration of fluid by mouth, by bowel, by hypodermoclysis, and by intravenous injection. These remedies, together with the administration of morphine to relieve pain, are the usual remedies for combating shock.

At the present time all salves and wet dressings should be abandoned, and operative procedures are unnecessary. Excision of burns, which gave promise a few years ago of being popular, is contraindicated for the reason that to remove skin, removes hair follicles, the major portion of which may not be burned, and which should be preserved to furnish epithelial cells for epithelialization of the burned area. Every ambulance and every industrial plant, and all doctors' handbags should be equipped with a solution of tannic acid, to be applied to every burn as soon as possible after it happens. The day of ointments is gone.

In the treatment of INFECTIONS, independent of wounds, it has been interesting to see how gradually, but surely, we have progressed by returning to the principles practiced by our fathers, by avoiding operative intervention and employing the principles of rest and hot applications. Very few surgeons operate in carbuncles, boils and cellulitis of the extremities until abscess forms.

We learned from the treatment of face infections the dangers and upon further investigation we find the same principles involved in dealing with infection elsewhere in the body. The treatment of infection is by vitalistic therapy: in plain ordinary language, poultices and splints.

The best time to cure CANCER is before it happens. This means that the pre-existing lesions, when they exist, must be removed or cured. Educational propaganda has made good progress. It is bringing cases early.

Cancer of the skin when easily accessible to removal can be completely eradicated by wide excision. When so located as to be inaccessible to complete excision, X-ray and radium are still the method of choice and highly efficient, when employed by an expert who is capable of determining the exact dosage and the method of application.

It is now possible through the division of nerve trunks and in some cases the posterior sensory column of the spinal cord, to relieve

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the intractable pain of advanced cancer of the face, tongue, neck and uterus.

There has been one important discovery having important bearing upon the question of two stage operations for cancer. Reichart discovered in studying regeneration of the blood and lymph vessels that within twenty-four to forty-eight hours after the blood and lymph vessels were completely divided, complete functional regeneration occurred. The bearing of this upon two stage operation for cancer makes it imperative that the second stage be performed within forty-eight hours of the first, or it will be useless on account of the fact that the lymph vessels from the malignant growth have already developed into the tissue from which they have been removed at the first operation. Thus, in cases of cancer of the lip, too far advanced for complete operation to be performed at one sitting, the second part of the operation must be performed within forty-eight hours or it will be useless.

SARCOMA: Who knows what sarcoma is and who knows what to do for it? Surgeons are removing it, or attempting to do so, and we see in the literature reported cures. Modern surgeons, however, at the present moment must consider that the case of sarcoma which has been cured by surgery was probably not sarcoma at all. So far as the bones are concerned we would do well if we never read anything about sarcoma as we find it in literature before the end of the investigation made by the American College of Surgeons and the report of Codman and his committee. The present conception of bone sarcoma is that it is extremely rare and not curable by surgery. The great practical advancement found in the management of bone sarcoma is incident to the fact that bone tumors can be cured by local excision; and those that are not cured by local excision are not curable by anything. The only place for amputation in the treatment of sarcoma is to afford palliative relief, for a short time, of unbearable pain.

Many miscellaneous diseases such as the various blood dyscrasias like pernicious anaemia, lymphatic leucaemia, Banti's disease, haemolytic jaundice, purpura have been through surgical hands in recent years and most of them have been sent back to medicine where they rightly belong. It has only been a very few years since the victims of pernicious anaemia were having their spleens removed, repeated

large doses of blood from some other individual injected into their veins under the name of "transfusion" and X-rays employed. Now within the last three or four years after having reported brilliant results in the management of these diseases with surgical measures, we find that the bio-chemists are giving us liver and its extracts for the cure of pernicious anaemia and all the surgery we have done for this disease is known to have been misapplied and is discarded. The disease has shifted back to the medical doctor.

For purpura and haemolytic jaundice, however, there seems to be a rational place for surgery through splenectomy. Let us not, however, consider this place fixed for we shall anticipate that very soon all such diseases will be taken out of the realm of surgery altogether.

The necessity of rehabilitation of seriously sick patients before a surgical operation is well established. Time is seldom lost by the use of restorative measures as a preventive of shock. Patients dehydrated by prolonged water starvation as a result of vomiting, diarrhea, peritonitis, intestinal obstruction, liver dysfunction and kidney breakdown should be prepared for operation by the administration of large quantities of water by mouth, hypodermoclysis and intravenously, sufficient morphine to secure rest, absolute avoidance of purgation and enemas and by the administration of large quantities of food easily digestible and of high nutritive value. The use of insulin with other systemic remedies, before and after operation, has enabled us to carry on our operative measures in diabetics with considerable pleasure as contrasted with the intense anxiety in operating upon diabetics before the discovery of this remedy.

TRANSFUSION: What shall we say about this? All remote and recent history and experience with the administration of human blood from one individual to another is either fascinating or pitiable, depending largely upon the point of view. As we read the current literature on the subject, which has diminished very greatly during the past few years, and as we travel about to various clinics and discuss the remedy with surgeons—and it is being used with very much less frequency than 5 years ago—what must be one's impression of the present status of transfusion?

There is abundant reason to believe that the present progress in transfusion is toward dis-

continuance. It may not be many years before transfusion will be talked about very little and practiced less. Large quantities of water containing sodium chloride and properly prepared glucose solution are the remedies for rehabilitation which are sound and efficient in cases which have been subject to transfusion.

ANAESTHESIA: In anaesthesia tremendous progress has been made in many directions.

Ether, during the past few years, has suffered much disaffection from many sources. The gases such as nitrous oxide and ethylene have tried to supplant it and for one reason or another have failed to do so. Ether, therefore, remains as the standard inhalation anaesthesia. Improved methods of its administration have rendered it so far as mortality is concerned, almost perfectly safe and almost foolproof.

Modern methods by the administration of various anaesthetics in sequence have given great improvements to the art of anaesthesia. We may properly say now that we choose the anaesthetizer rather than the anaesthetic.

We should not resist, however, the temptation to warn against ethelyne. It was a popular remedy for a few years in many quarters. Its proponents have tired of defending, apologizing, and seeking excuses for deaths during its administration.

The performance of operations under local and regional anaesthesia has made great progress. By the proper technique and by the use of novocain, an almost non-toxic substance, tremendous numbers of operations in all parts of the body, from the top of the head to the soles of the feet, are being performed painlessly since it has been found that five grains of barbital administered by mouth an hour before the injection of the novocain is an almost if not quite perfect physiologic antidote to certain disagreeable effects of novocain in individuals who may have an idiosyncrasy to the drug.

Cocain as a local anaesthetic should be entirely discarded. It is still employed by a few eye, ear, nose and throat specialists but it would be difficult to find defense for a catastrophe occurring after its administration.

Sacral or caudal anaesthesia, namely, the regional nerve block secured by the injection of novocain into the sacral canal, has been a tremendous asset in performing operations upon the bladder, prostate, external genitalia, perineum, anus and rectum. For all operations

upon these areas this form of regional nerve block furnishes adequate anaesthesia in 95 per cent of the cases.

Lumbar or spinal anaesthesia is the method of regional nerve block which has made the most advance in practical application during the past few years. The modern method of administration of novocain into the lumbar portion of the spinal canal stands conspicuous as the most outstanding improvement in securing anaesthesia. For operations above the diaphragm, it is being employed extensively. It is safe to predict that within five years spinal anaesthesia will supplant inhalation in all parts of the body, below the neck.

There is now going on some experiments in the new remedy amytal to secure sleep by the administration of this drug by mouth and by rectum and into the veins. This is mentioned as progress which will bear close watching. It is too new yet, even to talk about.

Ether, amytal or avertin administered by rectum (so-called colonic anaesthesia), has been proved to be sufficiently efficient and safe to be classified as a genuine improvement in the method of administering anaesthetics for operation upon the head and neck where the use of the apparatus for inhalation is in the field of the operation or in the way of the surgeon.

ASEPSIS AND ANTISEPSIS: Skin disinfection preliminary to operation centers now upon the use of such remedies as iodine, acriflavine and mercurochrome and much discussion has gone on concerning the relative efficiency of these three chemicals. Experiments have shown conclusively that the 5 per cent solution of flavine in 50 per cent alcohol is the most effective substance but we must not lose sight of the fact that the method of application of all these remedies is of vital importance. Watery solutions do not penetrate; alcohol solutions must be applied thoroughly with a reasonable amount of rubbing in and a reasonable delay of time to allow for penetrating before the incision is made. Before the application of these chemicals, the skin must be cleansed with ether to remove fat, dirt and the superficial tissue, and the skin must be dry.

Next to bacterial contamination the most important factor in wound infection is the accumulation of blood in pockets and the destruction of tissue by rough handling. We must realize instinctively that if a surgeon is gentle even though he may be dirty, many of his

wounds will heal and if he be clean even though he may be rough many wounds will heal satisfactorily; but a surgeon who is both rough and dirty will have an unjustifiably large number of infections of clean wounds.

There are in the making now practical methods of tremendous importance in operative technique with especial reference to the prevention of bleeding and the avoidance of trauma—the electro-surgical incision. By means of an electric apparatus using a needle or small pointed instrument brought in contact with the tissues, incisions are being made without bleeding.

Bloodless incisions which leave clean edges can be closed as well as those which are now being made by the knife. It will not be long before this method of operating will be practical with us all though we must guard against reporting it as progress until it becomes extensively used.

GOITRE: In no disease can it be more easily demonstrated that the line between medicine and surgery is borderless than in the management of goitre. All of the recent progress in this disease can be attributed to two factors; first the discovery by the medical men of the value of iodine as a specific remedy in certain types of the disease, especially preliminary to operation; second is the proof presented by surgeons of the necessity of almost complete removal of the thyroid gland. All types of goitre are now curable when placed under the joint care of a medical man and a surgeon. Complete operation performed at the proper time by a surgeon technically skillful in operating upon the thyroid gland aided by a medical man thoroughly familiar with the use of iodine in the treatment of the disease, yields complete cure with a mortality and morbidity so low that there can no longer be any excuse for dickerings with the disease and playing with foolish methods.

There has been great betterment in the results of the proper handling of injuries to the skull and brain. These are of tremendous importance now in every location because of their increasing frequency. The great need now is for competent first aid to the victims of automobile injuries in rural sections and prompt transportation of the patients to good hospitals.

Tumors of the brain and spinal cord can be accurately and promptly diagnosed and great

improvement has been made in the technical procedures in operations for the palliative treatment of the affection and in some cases removal of the tumor. Team work on the part of a qualified neurologist, ophthalmologist and roentgenologist make a diagnosis of these tumors possible in more than 95 per cent of the cases at a reasonably early stage of the disease.

Surgery for diseases of the viscera of the chest has made considerable progress.

Injuries to the heart are being sutured and the patient's life saved. Technical procedures are sufficiently perfect as to make it possible to suture successfully a wound of the heart if it can be done within two hours after its reception.

Suppurative pericarditis is now diagnosable. If properly looked for at a reasonably early stage, operative incision and drainage of the pericardium, usually under local anaesthesia, will yield a cure of the disease in more than 50 per cent of the cases.

Tumors of the mediastinum are easily recognized by physical signs and X-ray examination and technical operative procedures for their removal have been advised.

Within the past five years there has grown up an almost perfect study of the etiology, dangers and treatment of pulmonary atelectasis. It is generally concluded that pulmonary atelectasis, at first called massive collapse of the lung, is always accompanied by and in most cases caused by obstruction of the bronchi by plugs of mucus. Coryllos and others have shown that, if not all, certainly a great many so-called post-operative pneumonia and a great many other cases of pneumonia are secondary effects of infection of the lung—the seat of collapse following bronchial obstruction. With the full recognition of the significance of these facts and the application of simple remedies, post-operative lung affections have almost disappeared from surgery. The preventive measures of collapse consist in the proper clearing out of the tracheo-bronchial tree at the conclusion of the operation by the administration of oxygen and CO₂ through the regularly employed anaesthesia apparatus and by turning the patient over from side to side and encouraging expectoration for the first few days following operation. As a result of these precautions, the incidence of post-operative col-

lapse and pneumonia has dropped to approximately two-tenths of one per cent.

Lung abscess, recognizable in its acute stage, by a keen-minded physician, is so promptly curable by the institution of postural treatment, that at the present moment we may say that chronic abscess of non-tubercular origin is a reflection upon the diagnostic ability of the doctor who failed to recognize the disease in its acute stage.

Acute empyema, secondary to lung infection, is so easily recognizable that only carelessness can explain its failure of recognition. Delayed operation and feeding the patient on highly nutritive food, sunshine and fresh air for a few days will permit the pneumonia to subside and the pleural abscess to be walled off. This followed by simple drainage has reduced the mortality from 30 per cent to less than 5 per cent.

Chronic empyema of the pleura in non-tubercular subjects is invariably the result of a lung abscess. The problem in the management of this disease is a problem of lung abscess. With this conception of the disease, great improvement has been made resulting from slow evacuation of the pleural pus coincident with the postural treatment of the abscess, taking great pains not to evacuate the pus too quickly nor too completely until the patient has coughed up the abscess as shown by physical signs and X-ray examinations.

SURGERY FOR TUBERCULOSIS OF THE LUNG: The history of this is interesting but too long to be reviewed. It has grown up within the life time of the middle-aged surgeon of today. There are locations in the world in which great enthusiasm has been exhibited, according to the current literature on this subject, on the part of surgeons. Few highly respected medical men in the country have shown much enthusiasm for surgical operations upon the chest, to cure tuberculosis of the lung. Following the failure to cure the disease by artificial pneumothorax, some surgeons have proceeded to resect small and large portions of the rib on the affected side. When one looks back upon all the various changes and modifications of the surgical operations upon the ribs with the idea of putting at rest and curing tuberculosis of the lung and still the patients are not cured, we do not wonder that for the past two or three years the scarcity of literature on the surgical treatment of tuberculosis is so conspicuous.

SURGERY OF THE ABDOMEN has for years been making progress and will continue to do so, progress in both directions.

The surgical treatment of peritonitis is successful in proportion to the promptness with which the causative diseased structure is removed. The success of the surgical treatment of peritonitis has been greatly improved since doctors have learned that patients with abdominal pain must not be purged. It has taken a long time for it to seep into our heads that purgatives are pernicious in the presence of abdominal pain. Most doctors now know this and do not administer food and cathartics. Our next job is to teach this to druggists, to members of the family and to neighbors. This problem is so serious that in my judgment there should be a Harrison Act or Volstead law or 19th amendment against the sale of purgative medicines to anyone except upon prescription of a qualified doctor. If there is anything that has been definitely proven by clinical research it is that the cause of peritonitis is purgatives. Let us not fail to remember that though less violent than cathartics given by mouth, enemas are nevertheless pernicious.

It is distressing to have to admit, however, that we are still losing 20,000 people every year in the United States from appendicitis. We cannot say that these deaths are all due to incompetent surgery on the part of the amateur doctors who operated, though we do know that these factors are involved. The real cause of deaths from peritonitis in its last analysis will be found to be purgative medicines.

There are at least two diseases in the abdominal cavity for which immediate operation is imperative, namely, mechanical intestinal obstruction, and gastric and duodenal perforation. Though the mortality from these two diseases is much higher than we would like it to be, it is going down. The way to bring the mortality to the irreducible minimum is through the avoidance of purgatives and performing the operation at the earliest possible moment.

In the diagnosis of perforated ulcer, Stetten's sign is pathognomonic. There is slight bulging and relative softness of the abdominal wall of the left lower quadrant of the abdomen. We have seen this in more than twenty cases since it was described by Stetten and failed to see it in any other disease. It is explained by the fact that the peritonitis following perforation

involves first the right upper then the right lower then the left upper quadrants leaving the left lower quadrant relatively soft and bulging while the three other quadrants are rigid.

Brittain's sign was first noted by Dr. Brittain while he was an interne in the Memorial Hospital, in Richmond, Va. Upon pressure over the right lower quadrant of a case of gangrenous appendicitis there occurs sudden retraction of the right testicle by contraction of the cremaster muscle. We have observed it in over three hundred cases of gangrenous appendicitis and in no other condition. It is of tremendous diagnostic value.

Abdominal hernia, all but the most colossal in size, is now curable. It is well established that the main part of the operative procedure in hernia is complete removal of the sac; in addition to this, in special types of hernia, especially those of large size, the canal had best be closed with the patient's own fascia. More than 95 per cent of the inguinal, femoral and umbilical hernias are cured without danger to life. Our next job in the progress and management of hernia is to convince the patient that trusses are a useless nuisance and to convince the industrial commissions that hernia is a congenital affair, not the result of injury.

BILE TRACT DISEASES: There is no longer question or serious debate as to whether or not the gall-bladder should be removed or drained. Cholecystectomy is a standard procedure in all patients not too desperately sick to stand the little extra time and trouble required to remove rather than drain the gall-bladder.

It is well settled, also, that save in very exceptional cases, operation upon the gall-bladder is not an emergency procedure, and may be postponed a reasonable length of time for the well known preparatory measures to be employed. The only two diseases of the bile tract today which require immediate operation are cases of unquestionable gangrene and acute hydrops, and of these two conditions the diagnosis is rarely sufficiently positive to justify one in doing the operation as an emergency measure.

For those distressing cases of cancer of the pancreas accompanied by jaundice, anastomosis of the gall-bladder to the stomach, an easy operation, produces prompt and complete relief of symptoms and converts a miserable into a comfortable individual.

Ulcer disease of the stomach and duodenum,

still constitutes a fascinating debating society for the advocates of gastroenterostomy, excision of the ulcer, and excision of the pyloric portion of the stomach. There are places for all three of these operative procedures, and a selection of one or the other is dependent upon the judgment of the surgeon.

For all surgical diseases requiring resection of the bowel, such as cancer, gangrene of the bowel and intestinal obstruction, bowel injuries, the aseptic method of resection, anastomosis, is now almost uniformly adopted, and is greatly facilitating the operation and reducing the mortality of these operations.

CANCER OF THE RECTUM: Prior to attempts as recent as ten years ago, progress toward betterment in the cure of cancer of the rectum by operation has been made. It is practically agreed that permanent colostomy as the first stage of the operation followed later by radical removal from the abdominal side as the second stage, with final excision of the lower portion of the rectum and anus, is curing at least some of the victims of this distressing disease.

SURGERY OF THE PELVIC ORGANS OF WOMEN: The two most important advances in this field have been referable largely to the abandonment of operation in favor of the use of radium in cancer of the uterus, and abandonment of the curette for nearly all purposes. The remarkable effect of radium by one skilled in its use, and provided with an ample amount of the remedy, is conspicuous. Some cases are cured, all are greatly relieved of their bleeding and pain. The recent progress in the use of radium is in estimating the proper dosage to be employed. One who uses the same for all cases is five years behind time.

To scrape the uterus with a sharp curette is definitely productive of inflammatory disease, directly causative of pus tubes, and to one who is thoroughly familiar with the monumental work by Curtis several years ago, the uterine curette is an obsolete instrument. We still remove loose material from the uterus following a miscarriage, but it is done by forceps and tongs rather than by curette. There is no such disease as endometritis; infection in the wall of the uterus is spread by curettes.

OPERATIVE PROCEDURES: When both tubes are removed, it is best to remove also the fundus. This is preventive of post-operative menorrhagia and leucorrhoea. When the uterus is removed, both tubes also should be

removed to prevent pus tubes later. Repair of the lacerated infected cervix is obsolete. If operated upon at all they should be cauterized.

Surgery of the kidneys, bladder, prostate and urethra has been robbed of its dangers within the last few years with the rigid application of two fundamental processes, rehabilitation of the patient before operation, and performance of the operation under local, sacral and spinal anaesthesia.

Stone and suppurative disease and tumors of the kidney and bladder are easily diagnosable by the X-ray and cystoscopic methods combined. No operative procedure is one of emergency, and nearly every patient can be, by preliminary treatment, brought to a condition of ability to stand stone removal, kidney removal, tumor removal, under practically safe anaesthesia and without post-operative sequelae.

The operation of prostatectomy for hypertrophy of the prostate has for many years been attended with less danger than the use of the catheter, and at the present day no patient not actually uraemic need fear prostatectomy which, if it can be done at all, can usually be done in one stage.

Previously supra-pubic cystotomy as a preliminary to prostatectomy was needful, as an improvement upon repeated catheterization. But until the advent of modern methods and anaesthesia, the removal of the gland itself was attended by some hazard, in patients greatly ill with kidney disease. Today with nerve block anaesthesia, secured by injection of novocain into the sacral or spinal canal, the prostate can be removed painlessly without the need for speed and its consequent hemorrhage, and after two or three days the patient is out of bed and his general condition rapidly begins to improve. The mortality is now at the irreducible minimum. The patient dying now following prostatectomy dies not of the operation but of long standing delay before its performance.

For stricture undilatable with ease by urethral instrumentation, supra-pubic cystotomy under local anaesthesia solves the entire problem not only of drainage, but, by placing the urethra at rest, facilitates the resolution of the inflamed urethra and within ten days or two weeks after the cystotomy, it may almost be guaranteed that any stricture of the urethra will permit the passage of a number 10 sound.

This method of treatment of the urethra should supplant external urethrotomy, an operation which must necessarily be followed by some mortality.

When Dr. Hunter McGuire originated supra-pubic cystotomy for the relief of retention of urine, he builded better than he knew. He put into practice the biggest principle involved in surgery of inflammation, namely, physiological rest to the bladder and urethra.

SURGERY OF THE EXTREMITIES: The treatment of bone infections has been greatly improved and greatly simplified by the return to fundamental principles: evacuation of the bone abscess with the least possible trauma. This means the opening of the bone abscess, laying in of gauze saturated with vaseline and the application of plaster of Paris dressing not to be changed under two weeks.

To see children with osteomyelitis treated in this manner, being made comfortable and rapidly restored to health, is a great comfort when we compare it to the old method of daily painful dressings, loss of sleep, appetite, general bodily weakening and ultimately amputation of the limb.

As for septic joints, within the present year it has been shown that the evacuation of pus through an aspirating needle, the injection of air to the point of distention of the synovial cavity, is followed by relief of pain and drop of temperature. Though this injection may have to be repeated once or twice at intervals of ten days or two weeks, we have seen enough of this now to be willing to assert that it will obviate the need for opening cutting and drainage operations upon septic joints. First originated as a means of dealing with gonorrheal arthritis, it has been found applicable to all types of pyogenic infection.

Tremendous progress has been made in the field of orthopedic surgery, but of recent additions to operative procedure we have not had time to evaluate the permanent value.

The various types of gangrene have been the subjects of laborious study and effort, but we must frankly admit that up to now the surgeon in relation to gangrene is an undertaker rather than a preserver. With the aid of insulin one would think that we would have made great improvements in the prevention and care of diabetic gangrene, but we feel that the problem is not yet solved.

The greatest advances in the treatment of

injuries of large arteries and veins has consisted in the abandonment of all attempts to suture these blood vessels and the universal practice to proceed at once to ligation of the vessels involved and excision of the diseased tissue. Suturing blood vessels is obsolete.

The cure of varicose veins by the injection of chemical substances designed to obliterate the lumen by connective tissue infiltration seems to be successful and may be destined to replace operative removal in the great majority of cases. It is not quite time to be able to affirm that such cures will be permanent.

VAGINAL HYSTERECTOMY: ITS INDICATIONS AND TECHNIC.*

By J. SHELTON HORSLEY, M. D., Richmond, Va.

The operation of vaginal hysterectomy attracted much attention thirty years ago. It was then the routine procedure for all types of cancer of the uterus, and was occasionally employed for other conditions, including uterine prolapse. The operation as then performed was usually done by leaving heavy clamps on the broad ligaments for forty-eight hours. It was considered that attempts to tie the broad ligaments were too uncertain and dangerous. No effort was made to close off the peritoneal cavity. This operation gradually went into disrepute, not only because of the suffering and the mortality, but because of the recurrence of carcinoma.

Vaginal hysterectomy has been revived spasmodically from time to time, particularly in connection with prolapse of the uterus, but it now attracts comparatively little attention. Theoretically, it seems in many cases the logical procedure, and the cause of its unpopularity appears to be due to certain technical defects which are not insuperable.

Vaginal hysterectomy has, of course, distinct limitations and should not be applied where it is obvious that the body of the uterus is too large to be readily delivered through the vagina or where there are abdominal complications and marked disease of the uterine adnexa which would probably require abdominal exploration.

In cancer of the cervix, the more satisfactory treatment, considering the immediate mortality rate and the eventual cure, is amputation of the cervix with the cautery and the insertion of radium, or even the insertion of

radium without amputation of the cervix. I believe that when high amputation of the cervix with the cautery can be done and then radium is inserted, the prospects of cure are somewhat better than with radium alone, and the mortality rate is not materially affected by the amputation.

In occasional cases of cancer of the cervix, where the cancer is high in the cervical canal, vaginal hysterectomy is sometimes indicated. In cancer of the body of the uterus it is the ideal operation. In metritis, with persistent bleeding which is not malignant and not controlled by radium, such as from arteriosclerosis of the uterine vessels or recurrent hemorrhagic endometritis, this operation is indicated. In cervicitis with erosions and old lacerations when combined with uterine displacement or moderate hypertrophy, vaginal hysterectomy is a satisfactory operation. When combined with plastic procedures it is the best operation for most cases of uterine prolapse. In cancer of the body of the uterus or in infections of the uterus, when the uterus is drawn through the abdominal cavity in abdominal hysterectomy, in spite of the greatest care there is always a possibility of implanting cancer cells or bacteria along the route from the vagina to the abdominal wall. Even if the cervix is completely sealed, the lymphatics along the broad ligament may contain cancer cells or bacteria and when divided and the raw surface is pulled up through the abdomen implantation or infection may occur. On the other hand, in cancer of the body of the uterus or in inflammatory conditions of the cervix uteri, traction is made downward in vaginal hysterectomy and over intact mucosa and skin. The stumps of the broad ligaments are drawn down toward the vagina, and their lymphatic drainage is facilitated in this way.

In the proceedings of the Staff Meetings of the Mayo Clinic of August 7, 1929, V. S. Counciller and J. C. Masson, in a brief report, say, "That the cervix is a source of infection and should be removed in all instances in which it is chronically diseased, and in which hysterectomy also is indicated, has been shown by various members of the staff. Rosenow regards the cervix in the same light as the tonsils as a focus of infection. Moench studied eighty-two miscellaneous cases of leukorrhea at the Clinic and found the most conspicuous organism to be a streptococcus. Benedict and his associates have shown the relationship be-

*Read before the sixtieth annual meeting of the Medical Society of Virginia, at Charlottesville, October 22-24, 1929.

tween chronic cervical infection and lesions of the eye. Recently, Nickel produced hemorrhagic lesions around the trigone in bladders of dogs which had been injected with a culture from the cervix of a patient suffering from Hunner's ulcer. Perhaps the most cogent reason for performing total hysterectomy, whenever possible, is the fact that carcinoma is all too commonly seen in the cervical stump after the subtotal operation."

Much of the recurrence of cancer of the uterus is due to implantation during the operation, and the implantation occurs often at the vault of the vagina. It is obvious that a technic in which the peritoneal cavity is left open and heavy clamps are placed on the broad ligament to be removed later has disadvantages, not only of potential peritonitis and the discomfort of the patient, but the leaving of a wide open space where cancer can be grafted if cells have been spilled during the operation, and the possibility of a vaginal hernia afterwards must be considered.

In the operation described in this paper there is no single step that is original. Rather, various steps of other operations have been combined in this technic, and some gradual changes have been made so that the technic as used in the last two years is about as described below. The reasons for the various steps are usually evident.

About ten years ago, in doing a vaginal hysterectomy by the usual technic in a case in which there was marked metritis and cervicitis, the patient developed fatal peritonitis. The cause of the peritonitis apparently was the squeezing out of infectious material from the cervix during the manipulation of extracting the uterus. In the earlier cases, too, there was some tendency toward oozing or a moderate amount of hemorrhage after the operation. Sometimes the access has been difficult, and when the vaginal outlet is contracted this can be overcome by an incision by which the perineal structures are divided by an incision toward the left. In one case of a single woman about forty-five years of age with a small vagina, after making this incision I was able to do without difficulty a vaginal hysterectomy for carcinoma of the fundus. Of course in making this incision there is some danger of implantation of cancer cells, but if the cervix is well sealed and if the raw surface resulting from the incision is painted with iodine both

before and after the hysterectomy and then sutured, the danger is almost insignificant.

Since January 1, 1924, I have done sixty-six vaginal hysterectomies. Eleven were for carcinoma of the uterus, and of these, two for carcinoma of the cervix. In both of these cases of cancer of the cervix, the patients were old, one being sixty-three and the other sixty-four years of age, the uterus was markedly atrophied and the carcinoma was not far advanced. In one of them the carcinoma was rather high up in the cervix, and in the other case a cuff of vagina was dissected up, so forming a hood which occluded the cervix. Eight of the operations were for carcinoma of the fundus, and one for chorio-epithelioma. Eleven were for prolapse. In prolapse there has always been some other accompanying operation, such as plastic for cystocele or rectocele, usually both, so that some of the features of the technic described below could not be carried out. In marked prolapse the broad ligaments are sutured together, turning up the raw surface anteriorly if there is sufficient slack to permit it, and bringing together the under peritoneal surface of the broad ligament after the manner recommended by Dr. Charles Mayo. The bladder, thoroughly mobilized, is sutured with fine tanned or chromic catgut onto the anterior surface of the broad ligament. The cystocele and rectocele are then repaired. The remaining forty-four cases were for chronic inflammatory conditions of the cervix or uterus, sometimes combined with retrodisplacement, with hemorrhage, with small fibroids or with polyps.

In these sixty-six cases* there were no deaths. Of the outstanding complications, there have been in two cases a vesico-vaginal fistula. In one of them there was a small fibroid in the anterior surface of the uterus with many adhesions to the bladder. The bladder was torn while it was being stripped up. It was immediately sutured, but a small leak resulted and this was easily repaired at a subsequent operation. In another case there was a boggy infected uterus which was removed via the vagina and the usual technic of packing snugly with gauze was carried out. There was infection and a small portion of the wall of the vagina sloughed, and after four or five days a bladder fistula resulted. In the presence of

*March 21, 1930. Since this report was read, there have been seven more vaginal hysterectomies, without mortality, making a total of seventy-three cases in all.

inflammatory conditions it is utterly useless to attempt to repair a vesico-vaginal fistula, so the patient was sent home hoping that the fistulous tract would close voluntarily. Two months after the operation, however, there was still some leakage and the patient returned to the hospital. There was a small vesico-vaginal fistula that would barely admit the tip of a uterine probe. The tissues were in good condition, and the fistula was readily repaired with silver wire by the technic of Marion Sims.

While a complete check-up has not been made, I know of no case of vaginal hernia following this operation.

Vagina hysterectomy for prolapse of the uterus when accompanied by the plastic operation for cystocele and rectocele in which the supporting structures are united by kangaroo tendon or fascia lata, gives excellent results.

In the pre-operative treatment the patient is kept in the hospital for at least two days

the bowels are emptied and the vagina is cleaned.

TECHNIC OF VAGINAL HYSTERECTOMY

The patient is placed in the dorsal position and the cervix and vagina are painted with a solution of equal parts of tincture of iodine and alcohol. The cervix and uterus are packed with a strip of iodoform gauze which has been soaked in this solution. The cervix is closed with a suture of stout silk that folds in the iodoform gauze (Fig. 1). These steps, while simple, are important because they not only disinfect the surrounding tissues which may not be sufficiently cleaned by ordinary douches when septic matter is continually poured over them, but the soaked gauze disinfects the cervix and seals the cervical canal. If there is a suspicion of cancer of the body of the uterus and it is not known definitely whether a hysterectomy is indicated, a diagnostic curettage

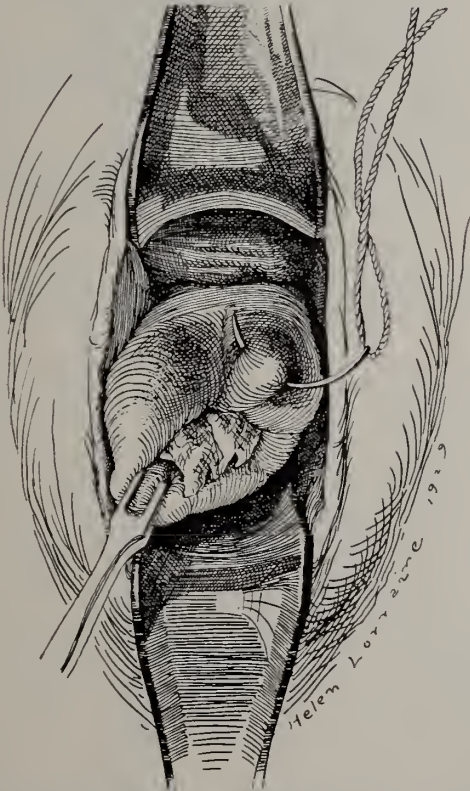


Fig. 1.—Vaginal Hysterectomy. The cervix has been painted with iodine and stuffed with a strip of gauze that has been soaked in tincture of iodine. The cervix has been closed over the gauze with a suture of stout silk which acts as a tractor suture.

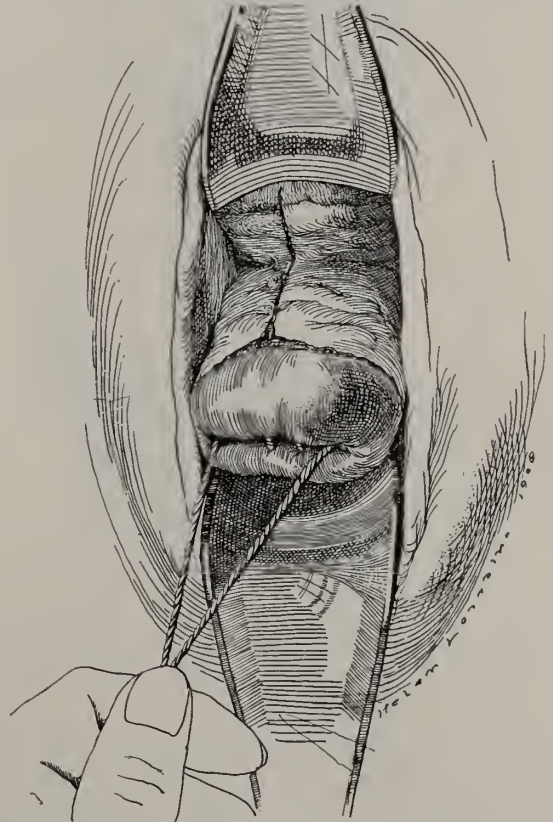


Fig. 2.—A transverse incision is made in front of the cervix, and from the middle of this a longitudinal incision is carried down the anterior vaginal wall.

before operation, douches being given and mineral oil administered, with enemas of salt solution and a low residue diet. In this way

may be done as a first stage, and if the condition proves to be cancerous the cervix is then disinfected and packed with gauze as described.

With traction on the tractor suture and a Sims speculum for the anterior exposure, a transverse incision is made just in front of the cervix. If the growth is cancerous near the cervix a cuff can be dissected up and sutured over the cervix, after cutting the tractor suture short, and another tractor suture inserted into the cuff of vagina. Indications for such a procedure are infrequent, but occasionally occur. An incision is made in the anterior wall of the vagina extending from the middle of the transverse incision downward for about two or three inches (Fig. 2). If there is a cystocele the incision extends to the urethra. The bladder is stripped up from the anterior vaginal wall, and then from the anterior surface of the uterus (Fig. 3). If there is merely oozing of

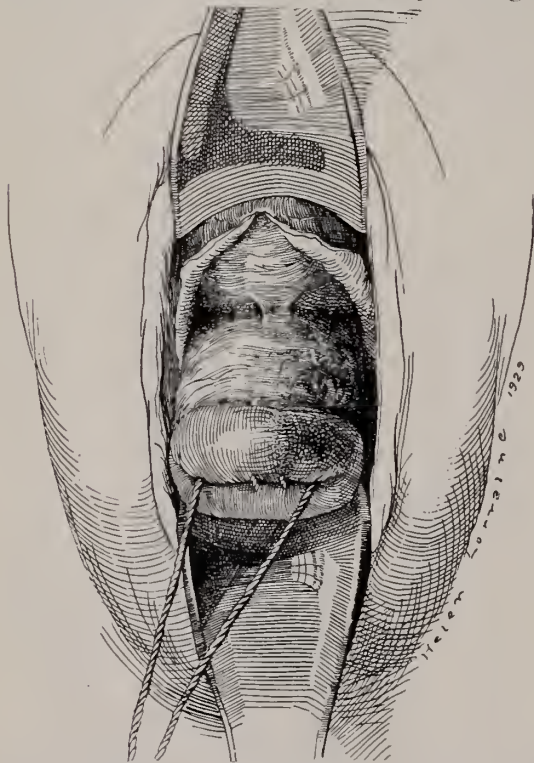


Fig. 3.—The bladder is dissected up from the anterior vaginal wall and from the anterior surface of the uterus. The original transverse incision is carried posteriorly, and the cul-de-sac is opened.

capillary bleeding, packing with dry gauze is sufficient, but if spurters occur they should be clamped and tied. The bladder is bluntly dissected with dry gauze or by spreading scissors dissection from the anterior surface of the uterus up to the peritoneum, and this raw surface is packed with dry gauze. The transverse incision in front of the cervix is carried posteriorly, and the posterior cul-de-sac is opened.

The vaginal incisions sometimes bleed rather freely, and it may be necessary to use hemostatic forceps but, as space is limited, it is wiser not to put on too many forceps unless the bleeding is marked.

The lower portions of both broad ligaments are clamped with heavy Ochsner forceps rather close to the uterus (Fig. 4). If the operation

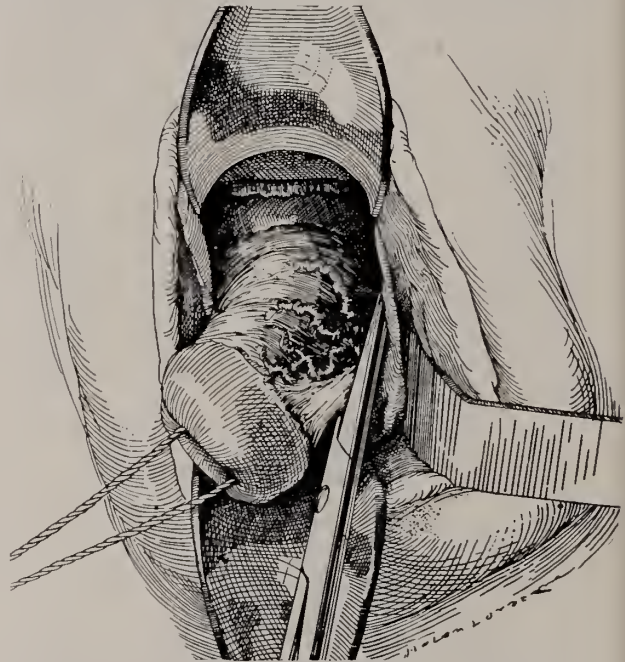


Fig. 4.—The peritoneum has been opened anteriorly and posteriorly. A stout clamp is placed rather close to the uterus in the lower segment of the broad ligament on the patient's left. A similar clamp is placed on the right side.

is for cancer, the clamping should not be quite so close to the uterus as in non-cancerous conditions. There is no need of double clamping because the backflow after clamping the uterine arteries is not very marked and can usually be controlled by traction on the uterus. If the cervix is long it will be necessary to put a clamp on each side before the uterine arteries are reached, but otherwise the uterine arteries can usually be caught in the first clamp. Section is made, taking care to leave a small fringe of tissue between the section and the clamp so the clamp will not slip. With rather strong anterior retraction the peritoneal cavity is opened anteriorly and the finger inserted around the fundus of the uterus for exploration. If the uterus is retroverted it may be delivered more readily posteriorly than anteriorly. Usually two more forceps are needed on the left side before all of the left broad ligament has been clamped (Fig. 5). With the finger over the left broad ligament it can

be dragged down and made more accessible. If there is a tendency of the bowel to prolapse, wet gauze sheets are inserted in the cul-de-sac. Care must be taken not to clamp the intestine. This mistake can occur quite readily and when the forceps is put on the upper part of the broad ligament the surgeon should be sure either by inspection or palpation or both that

for the cervix to contaminate the peritoneal cavity.

The segments of the broad ligament are controlled by transfixing and tying them with No. 2 plain catgut in a round needle (Fig. 7).

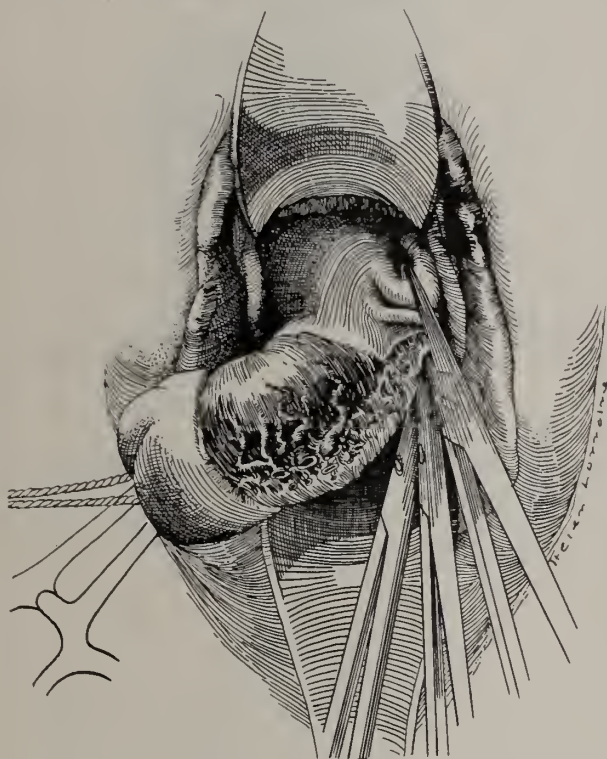


Fig. 5.—The lower portion of the broad ligament has been divided on each side. On the patient's left the clamps are placed on the upper segments of the broad ligament which are divided.

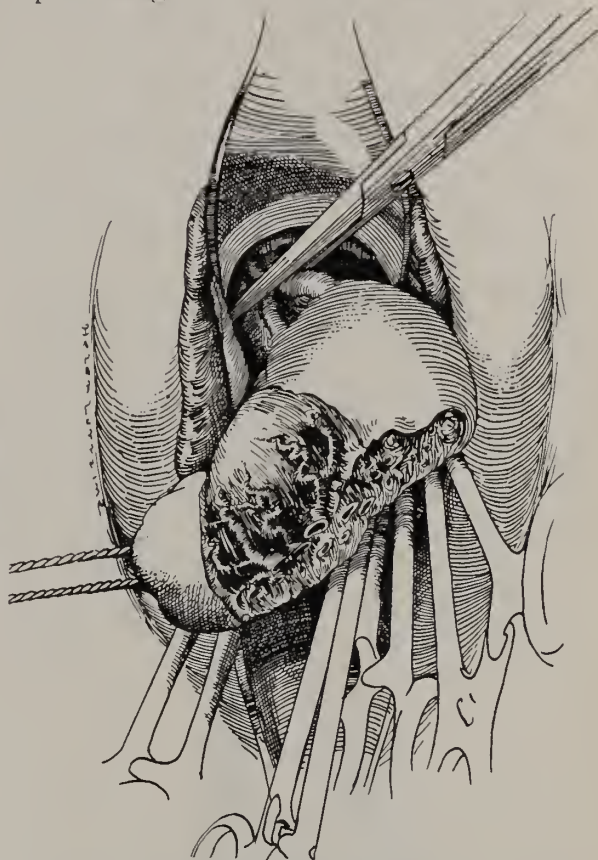


Fig. 6.—The fundus of the uterus has been delivered into the vagina. On the right side the broad ligament is being clamped and divided from above downward.

the bowel is not caught. If it is pinched and then recognized and immediately released, probably no harm is done, but if it is not recognized that the bowel is caught in the forceps the bowel may be opened during the severing of the broad ligament or inserting the ligatures, and this would be a real disaster. After severing the left broad ligament the fundus is delivered into the vagina, either posteriorly or anteriorly, depending upon the position of the uterus. The clamps on the right side are put on from above downward and the right broad ligament is severed and the uterus removed (Fig. 6).

During all of this manipulation the cervix has been kept within the vagina, even when the fundus is delivered, so if the cervix has been properly disinfected there is no chance

The first loop of the knot is tied as a single knot which is held with a mosquito forceps while the loop is being run down. At least three loops are made in each knot. In the top of the broad ligament two ligatures are placed in order to prevent retraction. The broad ligament is ligated from above downward, being careful to catch all of the tissues in each segment with a round needle, and removing the clamp as the suture is being tied down. When the ligation is completed there will be two sets of ligatures, one on each side. Each set is twisted into a cable.

The peritoneum from the bladder is caught with a hemostatic forceps and the peritoneum over the cul-de-sac is caught with small Ochsner forceps. In this way the two folds of peritoneum are distinguished and are sutured to-

gether with a continuous mattress suture of 00 tanned catgut (Fig. 8). The vaginal mucosa is sutured with a continuous suture of No. 1 tanned or chromic catgut, leaving the cables of the ligatures protruding at each extremity of this incision (Fig. 9). These cables are pulled upon sufficiently to bring a portion of the stumps of the broad ligament into the vagina. If the ligatures have been applied with a needle and tied as described, there is no danger of pulling the ligature off, but if they are applied without transfixion, pulling them down in this way might be a dangerous procedure.

Several strips of iodoform gauze are packed in the vault of the vagina, and the cables are tied snugly over the gauze (Fig. 10). In this way the gauze pressure obliterates the raw surface left by stripping up the bladder between the peritoneum and the vaginal mucosa, and tends to stop any oozing. The broad ligaments are brought well down toward the vagina where they adhere and afford support to the vagina and permit drainage of their lymphatics into the vagina. The cables should be tied snugly, but not too tightly for necrosis may occur. At the end of twenty-four hours the cables are

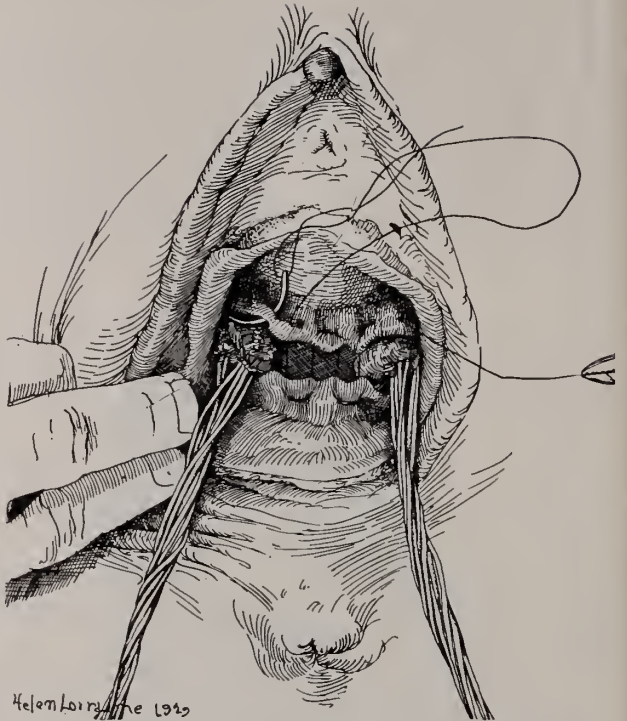


Fig. 8.—The ligatures on each side are collected into a cable and drawn down at the extremities of the vaginal wound. The parietal peritoneum is sutured with a continuous mattress suture of fine tanned catgut.

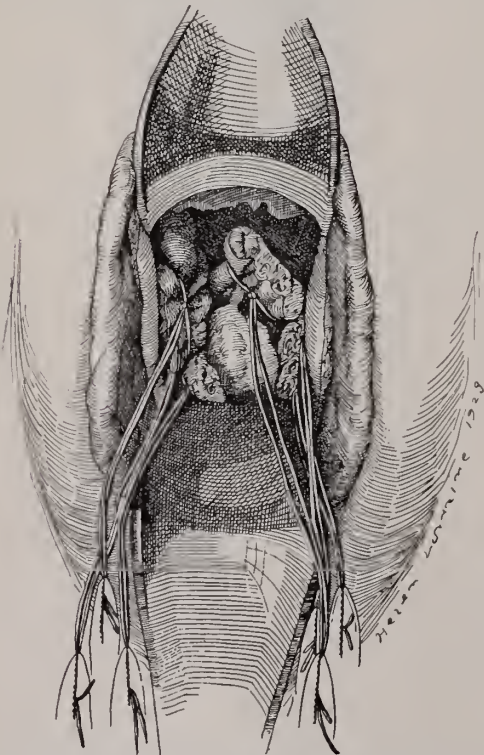


Fig. 7.—The segments of the broad ligament are transfixed and tied with plain catgut. There are usually three or four ligatures on each side.

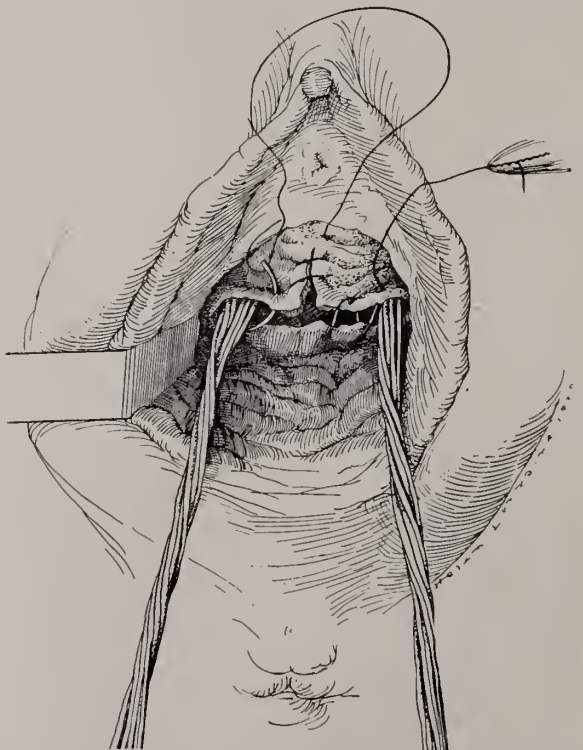


Fig. 9.—The vaginal mucosa is sutured over the peritoneum with a continuous suture of No. 1 tanned or chromic catgut. The ligatures on each side are twisted into cables and pulled snugly down so that the lower portions of the stumps of the broad ligaments appear in the vagina.

cut, and at the end of forty-eight hours the packing is removed.

Usually a self-retaining catheter is inserted, because it is often difficult to catheterize with the gauze and the ligatures obscuring the field, but if the meatus is readily accessible and the nurse is competent it would probably be better to catheterize every eight hours.

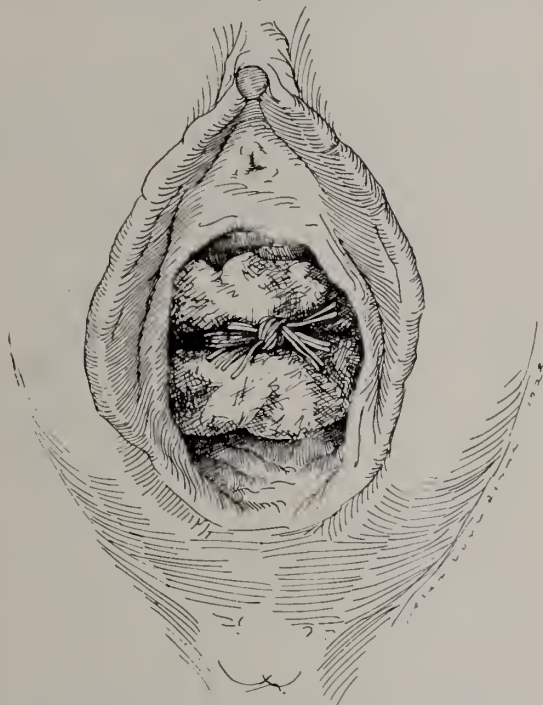


Fig. 10.—The vault of the vagina is packed with several strips of iodoform gauze, and the two cables of ligatures are tied over this.

This technic has been quite satisfactory, and while most of the steps described have been used since January 1, 1924, it has been only in the last two years that every feature of this operation has been developed. The advantages are that it seems to prevent contamination of the peritoneal cavity by disinfecting and sealing the cervix, good exposure is obtained by the additional incision in the anterior vaginal wall, and stripping up the vagina, the broad ligament is ligated by applying the ligatures as sutures so they cannot be pulled out, the peritoneal cavity is accurately sutured and the stumps of the broad ligament are drawn down toward the vagina and tied over gauze which tends to control the bleeding, obliterate the dead space and fix the broad ligament to the vagina, and promote drainage of the lymphatics of the broad ligaments into the vagina.

St. Elizabeth's Hospital.

DISCUSSION.

DR. PAUL W. HOWLE, Richmond: I have listened with a great deal of interest to Dr. Horsley's paper on vaginal hysterectomy, and I am very glad that he stated in very specific terms that the field is more or less narrow and that this operation should only be done in carefully selected cases. Of course, there are cases where this operation should be the one of choice. It is almost impossible, of course, in some cases to eliminate certain pelvic pathology, such as we find in obese women; how often we have opened up the abdomen in these cases and found very distinct pathology. I am sure, however, that Dr. Horsley would not include this type of cases among those that are indicated. Those who prefer the abdominal route would give as their reason that if the same technic were used in packing the cervix with iodoform gauze saturated in iodine and alcohol and the mouth of the cervix carefully closed, there would be no more danger of infecting the operative field than there would be in the vaginal route. They would further argue that they would have a better opportunity to inspect the pelvis for other pathological conditions, remove the appendix, and explore the abdominal cavity with no more hazard to the patient, and perhaps thus save a future operation. Again, the slipping of a clamp or ligature would prove a much more serious thing in the vaginal operation than it would in the abdominal. These are some of the reasons why vaginal hysterectomy has become to a large extent abandoned until recently, when it was popularized by the Mayos for prolapse.

I think Dr. Horsley is to be congratulated for two reasons: first, for his record of vaginal hysterectomy in sixty-six cases with no mortality; and, second, because he has combined in a most clever way the best points of the technic of several operators and has perfected one which should, in my opinion, be accepted as a standard. I do not see how it could very well be improved upon.

DR. R. L. PAYNE, Norfolk: I have been very much interested in Dr. Horsley's beautiful educational discussion of the subject. It is not clear in my mind, though, whether Dr. Horsley is offering this vaginal hysterectomy as a procedure where the indications are for removal of the uterus for carcinoma or otherwise or if he is offering it as a new technic. If the latter, I do not see that it differs in any way from the old Dudley technic.

Dr. Horsley did not tell us whether he does a perineorrhaphy or not. It seems that the perineal support represents at least half of what holds the bladder up, and it seems to me that perineorrhaphy is very necessary. I have never done one without repairing the perineum. I should like to show you a few slides of what we do routinely and what has been standard technic for about fifteen years. I feel that the perineum is at least fifty per cent of the support of the bladder.

DR. P. ST. L. MONCURE, Norfolk: I just wish to commend Dr. Horsley's little splitting up part of his operation in front so as to give more room. The other part of it does not seem to be anything new; in fact, it seems to be quite old. I object to his operation; I see in my mind a very weak point in that he does not give a proper support. Now, if he brought down his broad ligaments, overlapped them, and sutured them together, as Dr. Payne mentioned in his operation—which can be done and has been practiced for years—he could still close the peritoneum up above it. I see no advantage in his bringing down this great cord of ligatures, which he has used in tying off his broad

and round ligaments, and tying them over a great wad of gauze to be kept there indefinitely; because it does not give any support nor pull up the canal, which the overlapping of the broad ligaments and suturing with chromic gut would do. If he ties off frequently and uses as ligatures chromic gut; if he puts a great wad of gauze in there and ties these ligatures snugly over it, as he says he does, when you remove that gauze or wait until it slips out below without difficulty, you have opened up a nidus for infection.

Dr. E. T. HARGRAVE, Norfolk: I want to discuss one point, and that is with reference to indications. Dr. Horsley referred to two cases of carcinoma of the cervix in which he did this operation. The statistics are all against operation in cancer of the cervix. I should like to ask whether he found these two cases on frozen section or whether he suspected carcinoma. In early carcinoma of the cervix, Schauta, working in the University Hospital in Vienna, found that in 1007 cases of early carcinoma of the cervix he got a five-year cure in a large percentage by doing a radical vaginal operation. That operation is practically almost as radical as Wertheim's operation. But by early cases of carcinoma of the cervix he means the case that can be diagnosed only by the microscope. If the growth is large enough and suspicious enough to be considered carcinoma of the cervix, he considers it no longer an early case.

Now, as to the technic itself, it requires a great deal of courage to differ with Dr. Horsley on any point, but I do feel that the Mayo operation is better than Dr. Horsley's for this reason; the bladder has a shelf on which to rest, and by applying clamps from above down you do not run the risk of injuring the intestine. His point in sterilizing the cervix and sewing it up is most excellent, I think.

Dr. HORSLEY, closing the discussion: In my paper is this statement, which I shall take the liberty of reading: "In the operation described there is no single step that is original. Rather, various steps of other operations have been combined in this technic, and some gradual changes have been made so that the technic as used in the last two years is about as described below. The reasons for the various steps are usually evident." The only thing that even approaches originality is the combination of steps used by others. Whether it is a good operation or not, I have done it on sixty-six consecutive cases, eleven (11) of them for cancer, without any mortality. That, it seems to me, should have some weight.

As for the advantages of the abdominal operation, it is mechanically theoretically true that if the cervix is carefully sealed and brought through the abdomen there would be no contamination; but even when carefully sealed there may possibly be a little leak, and if it leaks in the peritoneal cavity, infection or implantation of cancer may occur. But all this is not mechanical, for there is living tissue to deal with. If there is cancer or if there is sepsis, the chances are that some bacteria or some cancer cells have been absorbed into the lymphatics. These lymphatics are divided in incising the broad ligament; and no matter how carefully the cervix is sealed, as the lymphatics are pulled up from below what becomes of the cancer cells or the septic products in the lymphatics? Obviously, they are smeared over the peritoneum and the raw surfaces. But in the vaginal route you are pulling down all the time, and the broad-ligament stumps drain not into the peritoneal cavity but into the mucosa of the vagina.

As to the perineum and Dr. Payne's criticism, I always, of course, repair the perineum in prolapsed cases, just as I repair the cystocele. Only eleven operations of this series were for prolapse.

As to Dr. Moncure's question, the ligatures are cut twenty-four hours after the operation to release the pressure, and all packing is removed in forty-eight hours.

THE EXAMINATION OF THE PRE-SCHOOL CHILD.*

By W. A. BRUMFIELD, M. D., Farmville, Va.
Director, Southside Health District.

It is said that Oliver Wendell Holmes was once asked when the training of the child should begin, and promptly answered, "With his grandfather." Those of us who are interested in the physical development of the child, too, have learned that we should begin with his progenitors.

A few years ago the great objective of most child welfare divisions of public health departments was the examination and correction of defects of school children. But the number of school children is so large and their defects so numerous that their examination and treatment is, at present, quite a hopeless task, and in rural Virginia the supervision of the physical condition and development of the school child has been relinquished to the teacher with a little assistance from the public health nurse where there is one. Our Bureau of Child Welfare has sought a younger and smaller group on which to concentrate its efforts, and hopes that in the younger children tendencies to defects may be discovered and corrected by hygienic or dietetic measures, or, when defects have already developed, that they may be remedied before much permanent damage has resulted from them. The group that has been chosen for this concentrated effort is the children who are to enter school for the first time at the beginning of the next session, and it is to a member of this group that the term "pre-school child" is specifically applied, and it is especially the examination of this group that is now under discussion.

There are approximately 60,000 children entering the public schools of Virginia for the first time at the beginning of every yearly session. The most that the personnel of the Bureau of Child Welfare has ever been able to examine physically has been about one-tenth of this number, and there is no prospect of funds with which to employ additional trained

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personnel. It is, therefore, obviously impossible to have salaried physicians from the State Health Department to make those examinations. Furthermore, some health officers believe that these examinations should be made by the family physician, and any defects found should be treated by him, or the patient should be referred by him to appropriate specialists. Our Bureau of Child Welfare has accepted this view and has devised a plan by which the department of education, the department of health, and the private physicians are to cooperate in getting the pre-school child examined and his physical defects corrected before he enters school.

Briefly, this plan provides that the Division Superintendent of Schools will instruct all of his teachers to ascertain as accurately as possible by inquiry through the school children, patrons, leagues, etc., the name of every child who will enter school for the first time at the beginning of the next session, and the name of the family physician of such pre-school child. This information will be sent to the Division Superintendents of schools, who will write a letter to the parents or guardians of the children urging them to have the children examined by the family physician at a time and place that will be designated. The list of pre-school children with the names of the family physicians will then be forwarded to the health department, and from it a public health nurse will visit the physicians and arrange dates and places for holding examination clinics. The nurse then visits the home of each child and endeavors to persuade the parents to take him to the clinic for examination, and she also attends the clinics to weigh and measure the children, act as clerk to the physician in recording his findings on standard forms, and rendering any other assistance that she can. The parents are also urged to have the children vaccinated against small-pox at the time of examination and to have them immunized against diphtheria before they enter school. For the examinations and the inoculations it is proposed that the parents pay the physician his usual office fee, or some modified "clinic fee" that may be named by the physician. It is hoped that benefits from the discovery and correction of defects, or the satisfaction in knowing that there are no discoverable defects in the child, will be so pleasant to the parents that they will take their children to

their physicians every year for thorough examination and advice.

This plan assumes that every one has a family physician in whose integrity, skill and judgment he has such implicit confidence that he may be induced to pay a fee for an expression of opinion concerning a child that is not supposed to urgently need treatment. This may have been true in the good old days so fondly discussed by our grandfathers, but the writer knows of several cases of scarlet fever and diphtheria that were not mild in which no physician was called because of the fee; also, he knows of two recent cases of infantile paralysis which were treated by the mother with calomel, castor oil, and syrup of figs until the little girl's legs and the boy's shoulder were paralyzed before a physician was called because his services would cost money, and he has been told by one intelligent and witty woman that the people in her neighborhood find the services of the undertaker cheaper than those of the physician. In the only instance in which I have known this plan applied throughout a county in which a large number of pre-school children were examined, many of the people frankly charged that it was a collusion between the departments of education and health and the physicians to make money for the last named, and the division superintendent of schools declined to take part in the plan a second year.

In the Southside Health District three other methods of discovering defects in the pre-school child are being tried. In all of them the survey is made by the teachers under instructions from the division superintendent of schools, according to the plan of the Bureau of Child Welfare. In one county, after the list of names of pre-school children and their family physicians are supplied to the health department, the county health nurse arranges examination-clinics with the family physicians as in the State plan, but no fee is charged for the examination, and small-pox vaccine is inoculated at the cost of the vaccine—fifteen cents. Even here many of the parents cannot be induced to take their children to the clinics, and many of those who do take them there will not have defects corrected after they are discovered—often, at least, ostensibly because they doubt the integrity and judgment of the physician. Under this plan, too, if the treatment of a defect should not be referred to a

specialist, the examining physician is put in the awkward position of urging the parents to bring the child back to himself, possibly many times, for treatment at his regular fees. This can be so easily construed as soliciting practice that few physicians will strongly emphasize the importance of the treatment indicated. This objection to this plan applies with equal force whether the regular office fee, a modified clinic fee, or no fee is charged. And when a reduced fee is charged for a given service in a clinic that is promoted by the public health department, the private physician is charged with unfairness if he ask the regular fee for the same service in his office at a subsequent time.

In one county in the district the examinations are being made by a salaried physician from the public health department. Of course, no fee is charged in this case, and the examiner does not prescribe for nor propose to treat anything himself; nor does he ever refer the case directly to a specialist of any kind. If the parent is present, which is always most desirable, the defect is pointed out to him, and he is urged to take the child to his family physician for advice as to treatment or the selection of a specialist.

In two other counties in the district, when the health department receives the list of names of the pre-school children, the public health nurse visits the home of each one, weighs and measures the child, tests his vision and hearing, and makes a complete inspection. If she discovers an apparent defect, she urges the mother or father to take the child to the family physician for examination. This advice, being given for a specific cause, is heeded much more frequently than the advice to take the child merely because he is to enter school a few weeks later. It has the grave objection that serious defects of the heart or other internal organs might exist and not be discovered by any one without the training of a physician.

The object of the examination is to prevent and correct defects of the children, and to teach the parents that modern medicine can often do much to improve the physical condition of the apparently healthy child. It is hoped that we may some day greatly raise the standard of health, and thereby benefit the people, the State, and the medical profession. Is it too much to hope that chemists or dietitians may

discover some vitamin that will actually prevent some of the many defects and susceptibilities to infections that human flesh is heir to?

OBSERVATIONS UPON POINTS OF INTEREST IN DEALING WITH THE PROBLEMS OF CHILD-WELFARE.*

By J. H. HIDDEN, M. D., Pungoteague, Va.

In dealing with the problems of child-welfare, I am not attempting a scientific discussion of any specific disease common to children, but simply endeavoring to emphasize the importance of some vital points of interest in the prevention of disease and in the development of health. In the presentation of these I hope to stimulate your efforts in solving some of the complex problems that are now facing us in our school work. Many of these belong to the field of sociology as much so as to the department of medicine, and, in many cases, the problems of these two departments are so mingled as to be inseparable. In dealing with these problems we often have to do what the map sketchers do in considering their position in relation to other objects—orient ourselves before undertaking a solution.

Now, as physicians, we have two principal features of work before us; first, that of the strictly scientific, involving the discovery, the testing and the systematizing of knowledge in regard to the human body and its relation to disease. and, second, that pertaining to the art of healing, involving the application of our knowledge to the best end. In this age of culture when the word, truth, carries with it a halo of sentiment, and many of us are inclined to glory in fanciful dreams of the value of almost any kind of knowledge for the sake of possessing it, I sometimes think that we are carrying out this idea a little too far at the expense of a more important side of our work, namely, that of healing our infirmities and preventing disease. In other words, the wisest application of what we already know should often engage our first attention; for the possession of knowledge that is not used represents lost energy in the economy of civilization.

Now, with these remarks, I wish to state that in undertaking to apply the simplest essentials of our knowledge toward fitting our pre-school children for school work we are

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confronted with many problems of a sociological character. In these we have first to deal with the relations of the family physician toward his regular patients, and then also with his attitude toward the general work in his community of the State Board of Health. Here, in many cases, we find that the family physician feels that his field of work has been encroached upon, and he is, therefore, not always in sympathy with the work of the Board of Health. Just how to handle this delicate situation and secure the co-operation of the indifferent family physician is often a problem indeed. This is true, not only for the members of the Board of Health, but also for those who are in perfect sympathy with the board's measures. Then, again, granting that we can, by a little tact and appeals to the best within us, overcome these difficulties and get better co-operation, we still have the problem of dealing with the parents of our children. This problem is also not always an easy one, especially, when we have to deal with it alone, but I will dismiss it for the present.

The two factors that I regard as the most dominant in the etiology of ill-health are those of deficiency in air and nutrition. If we add to these impure water and deficiency in light, we will probably cover the ground of about nine-tenths of our troubles in securing a good standard of health. In connection with these causative factors of ill-health, I wish to call attention especially to that involving the subject of ventilation. The subject of ventilation, I am aware, is an old one, and one that has been given great publicity, yet it is one that is still very imperfectly understood. The great majority of the laity all think that they are masters in this art, and hence they are not suitable subjects to be easily informed. Most of them have formed opinions, cherished prejudices, and have become almost hopelessly indifferent to further enlightenment along this line. The average physician himself hardly realizes the value of proper ventilation in its relation to good health. It seems, here, that the vast number of causative factors that so often enter into the etiology of ill-health serve as a sort of smoke-screen in obscuring our view, and so the dominant factor is lost sight of amidst the others. Now, in dealing with these conditions, if we could make a careful analysis of the successive morbid changes that so often occur, and trace them, as we would

the links in a chain, to their starting point, we could often find the primary factor in contaminated air and defective ventilation. Let us take for an example the subject, chorea, eliminating the conflicting opinions of the clinicians and the pathologists in regard to this disease, and accepting the modern view that it is a mild form of a disseminated encephalitis of the rheumatic type, the chain of morbid conditions, in many such cases, may be traced back as follows: rheumatism, cervical adenitis, chronic tonsillitis, adenoids, chronic rhinitis, and all these phases in these morbid processes, the outcome of impure air and defective ventilation. We may take also other diseases or pathological conditions in like manner, such cases as endocarditis of the rheumatic type, otitis media, antrum disease, sinusitis, etc., and a similar chain of anatomical disorders may be traced to the same origin, namely, impure air and poor ventilation. These facts should speak for themselves. In view of them, I do not hesitate to say that it is only by a careful analysis of these causative factors and the ability to trace the succession of changes in the pathological processes of ill-health that we fully realize the part played by the primary factor in any given case. This being true, it logically follows that the value of pure air and proper ventilation for the young child is hardly seen by the physician himself when he has neglected to familiarize himself with this feature of the subject. Now, if this position is true in regard to many of our physicians, how much more difficult is it to make the public at large see and realize the value of pure air and proper ventilation! For the last twenty-five years, this latter view has been my observation, and I feel keenly that we need outside help, and especially that of the State Board of Health to enlighten the laity in the simplest views of hygienic living. During the last decade much has been done already along this line, and our people are beginning to wake up, but in this work we are still in our infancy. The work of our State Board of Health in connection with our public school system has been proven to be one of the most efficacious ways of reaching the people in the practical training of sanitation and hygiene. And, in view of this, every teacher in our public schools should be required to know, not only the theory of the value of proper ventilation,

but also the art of teaching it practically to his or her pupils. By this latter process, these courses of instruction will finally reach the homes of these children and bring about a new order of things in hygienic living.

Now, to some, this phase of our work may appear as a very simple matter, but a little reflection just here will suggest real difficulties to encounter. For instance, all the children in the schoolroom are not of the same type. Some are relatively strong and plethoric; others are delicate and anemic; some are well clothed with warm underwear; others wear thin cotton and are almost naked. Again, some are accustomed to outdoor life with liberal exercise; others are kept indoors around overheated stoves, and reared in indolence and seclusion. When considering this state of affairs, it stands to reason that a definite standard of temperature and ventilation, in cold weather, in the schoolroom for one class of these children may not be best for the other class, and so it may be often desirable for the teacher to make a compromise in the regulation of ventilation in order to suit the largest number of children. In other words, a temperature in the schoolroom that would suit the healthy, plethoric well-clothed child, would keep the delicate, anemic and thinly-dressed child chilled almost beyond endurance. Now, when the teacher sees this situation in his school and sends one of these half-dressed children home with the request that the child must be properly clothed, offense is often given, and the teacher receives the reply: "We would like for you to know that we will clothe our own children to suit ourselves." This is not a mere fanciful picture. It is often what occurs over the country, and it illustrates the necessity of a tactful co-operative course of work in the families of pre-school children when we undertake to fit them for the schoolroom.

Again, when we begin our work early in the homes of these children we have to be even more tactful than ever, and here, to my mind, we need the assistance of the State Board of Health. Moreover, when we enter the homes of the children and undertake to teach their parents a better grade of hygienic living and the subject of ventilation, they at once assume the defensive, and often resent our efforts as arrogant meddlesomeness. In the rural districts this is especially true, and

in cities this state of affairs is, doubtless, not much better. And as long as these conditions prevail we need not look for any diminution in nose and throat operations among our children throughout the country. Indeed, the clinics of adenoid and tonsil slaughter will continue as an effort to relieve what ought to be prevented in the majority of cases by a more rational and enlightened course of living. What a commentary upon our present state of civilization!

Again, in making these remarks upon the value of pure air and proper ventilation, I wished simply to present a typical picture of our many problems. The subject of nutrition is of similar import, and is involved in similar difficulties. Moreover, further study in our field of work brings to view many more features to be dealt with, all, more or less, entering into these sociological questions. We will have to learn how to handle these as they arise in each community. I have not time to discuss them at present, but I do wish to state, judging from my own experience in dealing with such questions, I believe that, without a co-operation with the work of our State Board of Health along these lines, our progress in preventive medicine, sanitary enlightenment among our people, health and growth of our children of pre-school age, will be slow indeed. Any man who has a heart in his bosom and loves his country ought to hail with delight any outside real help in our struggle to give our coming generation better educational advantages and a higher order of living. Let us bear in mind when we strive to improve the health of these little ones we seldom realize the possibilities before us.

With your permission, I will give you an example of one of a number of such cases that has occurred in my own practice. About twenty years ago I was called to see a very delicate child who seemed to be one of that type that caught nearly every child's disease that appeared in the community. She was anemic, and suffered with the following disorders: cervical adenitis, adenoids, chronic tonsillitis, persistent attacks of cold, chronic rhinitis, pharyngitis, enlarged turbinates, and spells of subacute bronchitis. With all these morbid conditions of the air passages, an attack of measles, followed with involvement of the lungs, seemed to make her case appear grave indeed. As I worked and studied over

her serious condition, not knowing what the next day would bring forth. I went through hours of anxiety with the abiding hope that her wasting little body might be restored to health. The die was cast in her favor, but for a long time she still lingered a delicate little girl. At last, in my eagerness to restore her to health, I decided to take her to my office and remove her tonsils. This was done, and under the aid of fresh air and a rich diet she was soon restored to excellent health. As she grew up and attended school her splendid intellectual heritage and mental endowments soon asserted themselves, and she has become an honored graduate of Columbia University, and, I am informed by her mother, is now applying for her Ph. D. at the Johns Hopkins University. Even before she entered this great university, she was a brilliant educator in our land—a woman of the highest type, cultivated, gentle, refined, most efficient, and a real ornament to society. How could I look for a higher reward for all those hours of anxiety when her little life hung upon a mere thread!

My friends, let it be known by our faithfulness to our trust that we are not working merely for the glittering silver dollar, but that we have in view the real gold of life, heaven's richest blessings—health, strength, culture, efficiency—in a word, the highest type of usefulness.

CHILD WELFARE: WHAT IS BEING DONE IN THE FIELD OF CHILD CONSERVATION.*

By A. T. FINCH, M. D., Chase City, Va.

No child should be obliged, or be allowed, to enter school suffering from any removable handicap. As a matter of fact, every child between the ages of six months and six years should be examined semi-annually by his family doctor and family dentist to correct defects and prevent sickness. If the medical profession of the State of Virginia will catch the full vision of child welfare work and render enthusiastic aid to the State Department of Education and the State Department of Health in this educational drive and arouse the parents to the importance of these physical inspections, and thorough physical examination, it will not be necessary for the Parent-Teachers' Associations to make such strenuous

efforts to round up the children who are preparing to enter school for the first time and arrange for their examination and inspection, so as to correct defects before entering school. If this work is put over properly by the doctors, so much benefit will be derived that parents will recognize the importance of these examinations and see that they are made regularly every six months.

THE NEED OF AND THE BENEFIT TO BE DERIVED FROM THIS PLAN OF PRE-SCHOOL HEALTH EXAMINATIONS

Examination of these children of pre-school age has shown that 75 per cent of them have some defect which can readily be corrected. The school census of 1928 shows that in the rural schools there are 213,221 children between the ages of five and nine years, and that there are in the cities 63,963. This census also shows that there are 90,000 children, rural and urban, entering school this year for the first time, with the largest number from the rural districts. If these children can be examined carefully and thoroughly and their defects noted and pointed out to their parents and suggestions made for removing these defects, much good will be done the child. From the statistics gathered by the State Department of Health, we know that from inspection made by the teachers and nurses, 75 per cent of defects have been found. Now, when these children are directed to the family physician and he takes the proper interest and makes the proper examination, we believe more defects will be found, and we know that under his influence the parents will do far more to have these defects remedied. If the family doctor will catch the vision and fall into line and learn the requirements of these examinations, and the best and most modern methods of making them, he will be ready to enter fully into this plan of child health examination; also, he will be doing a permanent and useful service to the public, and from this there must come a just and material reward.

THE KIND OF EXAMINATION REQUIRED IN THIS PLAN

The West law says that the Board of Supervisors of the several counties and councils of cities are "authorized to make appropriations out of the county, city or town funds, as the case may be, to provide for the health examination of school children." This law also pro-

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

vides that the normal schools of the State shall put on a course of physical examinations and inspection, as approved by the State Department of Education and the State Department of Health, in order that the teachers may know how to make physical inspection of school children. Under this system of inspection the State Department of Health has put on and developed the Five Point child. The Five Point child has gone over the top with a rush, and children and parents are now clamoring to be in the Five Point class. The Five Point program includes simple tests of vision, hearing, teeth, throat and weight. The public health nurse assists the teachers in this inspection and does much of the follow-up work. The Department of Education and the Department of Health have seen the benefit of these inspections and of the Five Point program, and the Division Superintendents' Association passed a resolution in November, 1928, requesting the Medical Society of Virginia to assist in developing and perfecting this great field in preventive medicine in the school children. Your committee on Child Welfare has published recommendations calling for more complete examinations of the children by their family doctor, and has set up a Fifteen Point plan, as follows:

1. Good nutrition:
 - a. Not more than 10 per cent below or 20 per cent above average weight for height and age.
 - b. Firm musculature and subcutaneous tissue.
 - c. Hemoglobin not below 75 per cent (Tallquist scale).
2. Eyes: 20/20 vision with no symptoms of eye strain—or corrected to 20/20 vision with glasses if necessary, and with no organic lesion which impairs function.
3. Accurate hearing, with no malformation or chronic disease. (Ordinary conversational voice 20 feet).
4. Free nasal passages, absence of mouth breathing—(no adenoids).
5. Healthy throat—if tonsils are infected or are the causes of other defects, they should be removed.
6. Teeth reasonably clean, no exposed roots or unfilled cavities (preferably checked by dentist).
7. No glandular disturbance, such as tuberculous adenitis, hypertrophied thyroid, etc.

8. Fully compensating heart (rule out by exercise if suspicious), with no organic lesion.

9. No disease of the lungs—tuberculosis, bronchitis, asthma, etc.

10. No abdominal defect, as hernia, palpable spleen or enlarged liver.

11. No intestinal infestation, as parasites. (If suspicious, send specimen of stool to the State Laboratory).

12. No major orthopedic defects, erect posture. (All minor orthopedic defects corrected, as flat foot, postural curvatures, etc.)

13. Skin and scalp free from parasitism and other infections or serious conditions. (If suspicious, have specimen of blood sent to State Laboratory for Wassermann test).

14. Absence of organic or functional nervous disease.

15. Protection against small-pox, diphtheria, typhoid and para-typhoid.

THE NECESSITY FOR A UNIFORM FEE AND A UNIFORM EXAMINATION

Physicians who have graduated more than ten years ago (of whom I am one) were not taught the latest and best methods in examining and in evaluating the defects found, therefore, while the family physician's examination is far better than the teacher's or nurse's Five Point inspection, the Committee on Child Welfare of the Medical Society of Virginia has thought it best to recommend a uniform system of examination, namely, the above Fifteen Point plan, and has further suggested that the medical schools of Virginia give a brief course in this work of health examination of school children, in order that the child, the doctor, the school, and the family may receive the greatest benefit from these examinations. As to the uniform fee, the physicians of Mecklenburg County have felt that the Parent-Teachers' Association, the health nurses and school teachers were endeavoring to place this work in the hands of the family physician, where it should be, and we should, therefore, adopt a uniform fee which will be lower than the regular office fee. This should be done in order that the physician may help put over this plan of a thorough physical examination by the family physician at a price which will work no hardship on the family or the doctor. A number of physicians have wanted to charge nothing, but this would not be fair to the physician nor to the child, for routine things done for nothing usually are not well done. This

work is yet in its infancy, and it should be helped in a systematic way by the family physician.

Shall the physicians of Virginia fail to heed this request of the Superintendents' Association and be blind to their own usefulness? From the work done this year in the field inspection of nurses, the physicians have failed to catch the vision both as to need and as to opportunity. I shall briefly give some comments made by the physicians to the nurses on the Pre-School Summer Round-Up. "Doctors prefer to turn the work over to the health officers." "Doctors willing to cooperate, but only a few will set a day. One said he would go over them when he found them in the homes. Are 'doubting Thomases' as to results." "County Superintendent sent out letters urging medical examination of children, complete survey made by teachers, doctors willing, but no definite plan offered." "No cooperation by teachers or physicians." "Local doctors thoroughly cooperative, no fee charged." "Work should be done by the health officers." "Too busy to examine. Prefer health officer." And comments, so on, throughout the counties.

These are a complete resume of the work done in all the counties in the State show that the physicians have not grasped the full benefit to themselves and to the children to be derived from this plan as outlined by the Medical Society of Virginia and the State Department of Health. The doctors must first "be sold" to this plan and then "sell" it to the parents; when this is accomplished it will not be long before the parents will fully realize the importance of having children of pre-school age examined every six months by their family physicians.

Now, in my humble opinion, it is exceedingly refreshing to know that there are two progressive organizations in the Commonwealth that have come forward in conventions and offered resolutions to put into operation plans to send the 90,000 children of pre-school age to their family doctors for health and advice. Shall we meet this call, or let it pass to teachers, nurses and subsidized doctors?

Even the collective medical bodies, local and State, find themselves hampered and quite unable to cope with the situation, confronted as they are by corporate medical free clinics, pay clinics, endowed clinics, and many other encroachments. This situation is not altogether

to be wondered at when one considers the lethargy, the complacency, the unbusinesslike methods of the average doctor, his lack of vision, and his apparent inability to appreciate potent organization and uniform, organized methods. Obsolete methods and ideas must go. This is an age of specialization, organization, business mergers, great corporations shifting and making new alignments to meet new calls for new service and new methods. So we, as physicians, must come in and cooperate with our county societies and State societies. Shall the Medical Society of Virginia fail to meet the request of the Department of Education? Shall the family doctor fail to meet the needs and call of child conservation? We must meet both, or go down under State medicine or the subsidized doctor. Mecklenburg County has met this by its county society heartily entering into the plans of the State Department of Health and the State Department of Education. The county society accepted the call of the State Department of Health and inoculated 1,800 children of the county at schools with toxin-antitoxin, the county society agreeing to do this work for the same amount that the State Department of Health would receive. This fund was paid to the Mecklenburg County Society and was distributed, each member of the society receiving the same amount, whether he inoculated one hundred or several hundred children. The county society has entered into the plan of pre-school child examination and agreed upon a uniform fee of \$1.00 for each examination, believing that the family physician and the community will receive equal benefit from this work. At the last meeting of the Mecklenburg County Society, each member present, who graduated more than ten years ago, agreed to take the post-graduate course in Child Welfare Work as outlined by the Medical Society of Virginia, and thus equip himself for this great work of Child Conservation.

DISCUSSION OF PAPERS BY DRs. BRUMFIELD, HIDDEN AND FINCH.

DR. WM. B. McIWAINE, Petersburg: I cannot let the opportunity of saying something on this subject go by, especially as Dr. Conrad, the president of the Virginia Pediatric Society, is not here. As secretary of that society, I wish to express my appreciation of these papers so ably given by general practitioners.

The Virginia Pediatric Society is composed mostly of men limiting their work to pediatrics, but we do wish any men interested in child welfare would

come in and join our society, because, as you know, we are not a group of specialists but simply general practitioners, limiting our work to children. It is not a close corporation for specialists, but is open to every man in the State of Virginia especially interested in children's work, whether limiting himself to it or not. We have a committee on child welfare, and the committee and the society as a whole are heartily back of the Medical Society of Virginia in child welfare work. I want to go on record here tonight as speaking for the Virginia Pediatric Society, and say that we appreciate the work you are doing. Most of us are in towns and cities and cannot do the work in the country which these men are doing, and the men who are doing this work in Mecklenburg should have the heartiest thanks of every member of the Society. I am sorry that more people could not stay tonight and hear these papers.

DR. B. S. YANCEY, Chase City: I thoroughly enjoyed the most excellent paper presented by Dr. Finch, and am heartily in accord with most of his views on this great work.

These examinations are of value to all concerned, the physician, the child, and the State. No one will hardly question the inestimable value to the child, and by the same token in giving to the State a more healthy and fit citizen of future years. To the physician it is of equal or more value. It should coach us once again in routine examinations, and by doing this tend to make us more careful diagnosticians. It throws us into active participation in that most important phase of modern medicine, namely, prevention. Again it gives us more opportunity to find and help correct many deformities and defects in our little patients for which they will be doubly grateful in later years. To the parents and the public at large it will be of educational value, in that it will place before them the value and the necessity of the periodic health examinations. In addition, it will lead to the practitioner doing these examinations and not having them done by some subsidized physician under some health institute. I firmly believe the periodic health examinations will be a great forward step in preventive medicine.

The present five point inspection has been a most valuable step, but I feel that one of its greatest uses is that it will lead to a complete physical examination. I am opposed in one sense to this inspection, in that I believe it often gives the child a false sense of security, especially when made by a nurse. It is so easy for them to overlook some serious pathologic condition. The marked interest shown by the children in the five point certificates is ample evidence that they will be equally or more clamorous for the fifteen point examination.

The logical man to do this examination is the family physician. There is a marked reluctance, especially in rural sections, toward consulting an outsider, either for examination or immunization. I have in the past month questioned a large number of parents on this subject, and the general consensus of opinion is that they prefer the family doctor even at the expense of a fee. Several families I know refused to take their children to a clinic for toxin-antitoxin, but brought them to their physician at the regular fee. These were all farmers in very moderate circumstances. Regardless of the skill of the clinician or the ability of the nurse, the family doctor will be the final consultant.

Regardless of the opinion of the State clinician, the defects will not be corrected until advised by

the family doctor. They have faith and confidence in their family doctor that can never be replaced by an outsider, and that faith and confidence must never be broken by reluctance on the part of their doctor to do these examinations.

To my mind the lethargy and indifference shown by so many practitioners toward making these examinations is dangerous to our profession. Our people prefer us and the State prefers that we do these examinations. Our indifference alone can be blamed if the State takes over this work. This indifference is of necessity conducive to State medicine, and that is unquestionably deadly both to our profession and to the public at large.

The health officials are more than anxious to work with and help the practitioner, but unless we show some signs of interest in such vital health problems, we alone can be blamed if we are in future years submerged by State medicine.

DR. C. T. JONES, Petersburg: It seems to me that it is a hard question to decide in some of these cases who is the family physician, whether it is the physician employed yesterday, today, or tomorrow. I believe most of us are interested in child welfare and are anxious to cooperate in these matters, but often we have not the opportunity. Children are often taken to a pediatrician primarily or to a specialist. The advice of the family physician is often not sought in these cases, and I do not believe the so-called public health nurse is as careful as she might be in referring these cases to the family physician.

VAGITUS UTERINUS.*

By M. PIERCE RUCKER, M. D., Richmond, Va.

The crying of an infant while in its mother's womb is such a startling and uncanny phenomenon and withal such a rare one that it is not surprising that the ancients treated it as a more or less supernatural manifestation. Mahomet and St. Bartholomew are said to have first made known their presence on this earth in this manner (DeLee).

Tradition hath it that Zoroaster went them one better and laughed in his mother's womb on the day of his birth (Thorn), and Livy, the Roman, cried out "Jo! triumphe" while still within the uterine cavity (Goldberg). It seems a pity that such occurrences were not known to Shakespeare for he, who so aptly describes a Cesarean section, in speaking of McDuff as being "from his mother's womb untimely ripped," would surely have made something interesting out of vagitus uterinus.

From time to time through the centuries mention is made of intra-uterine crying, and the phenomenon was explained variously as hallucinations of the observer, borborygmi of either maternal or fetal origin, flatus uterinus, garrulitas valvae or vulva loquax, or else dismissed as an impossibility. Sippel attempted

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

to explain the sound by supposing a current of air rushed in or out of the womb and set to vibrating a piece of membrane that happened to be tautly stretched across the uterine orifice. It is only in the last thirty-five years that the subject has been given serious consideration.

In 1895, Herwig wrote a thesis on this subject and collected 51 cases, and, in 1904, Bucura reported a like number that he had collected in the literature since 1800. The most recent report is that of Freed's who also reported a personal case and analyzed 65 reported cases. In practically all of these cases the cry occurred when some operative procedure or else a careless or rough vaginal examination was undertaken. It is likely that some cases of vagitus vaginitus are included in this number, for the author speaks of 3 cases of face presentation as the only exceptions to the rule of it occurring only after some intra-uterine manipulations. Hartel, however, reports a case where no operative procedure preceded the intra-uterine crying. It was that of a double footling with ruptured membranes and the cervix the size of a five mark piece. Two hours after this examination he began to administer chloroform when he was startled by the baby's crying. He did a quick extraction. The child was apparently dead, but was resuscitated by Schultze's swinging method.

Of the 50 cases collected by Bucura, 11 followed the application of forceps, 15 versions, one the reposition of an arm and the cord, one a breech extraction, 2 the introduction of a bag, one the rupturing of the fetal membranes and 2 vaginal douches. The necessary steps for the production of vagitus uterinus are: (1) Rupture of the fetal membranes, (2) the entrance of air into the uterus, (3) stimulation of the fetal respiratory center.

There is considerable controversy, especially in the German literature, as to the nature of the respiratory stimulation. One theory is that some interference with the placental circulation causes an increase in the fetal blood of CO₂. The other theory is that the respiratory stimulus arises from a cutaneous irritation, either thermal or mechanical in nature. Dyroff makes a distinction between respiratory stimulus and crying stimulus. Cases are cited to prove either theory. In Frazer's case the child cried whenever the head was compressed with the forceps. In Telfair's case, that of a version, an assistant flicked the sole of the exposed foot

and the child cried vigorously. On the other hand, in Konopka's case, that of crying as version was being done, the cord was three times about the neck and the child was deeply asphyxiated. Creutz reports the case of a version in which the child cried every time traction was made on the feet. The cord was found taut between the legs. The baby was resuscitated with difficulty. However, in Lee's case, that of a breech extraction, the baby cried also when the breech was pulled upon and there was no cord between the legs. Lee did not hurry the extraction and there was no asphyxiation of the infant. The most convincing case in support of the asphyxia theory is perhaps that of Flatau, who heard fetal crying as often as he compressed the prolapsed cord between his fingers. In V. Streit's case, the placenta was found to have separated just after the baby cried.

The question is of more than academic interest, for if the cry be dependent upon beginning fetal asphyxia, then it should be considered a danger signal and calls for rapid intervention for the sake of the child. In fact, Marx calls it a pitiful "cry of help." However, he lost the baby after a rapidly performed version. The same can be said of Morton who endeavored to save the baby in his case by performing a version. In Bucura's case, that of induced labor with bag, prolapsed cord and version, the baby was saved by a rapid extraction, but died 4½ hours later of a broken neck. Washbourn tells of trying to deliver a primipara with forceps. The baby cried as the forceps were applied. He attempted a quick extraction in the interest of the child, but failed and gave up after 10 minutes. An hour later his chief delivered the baby and it did well, although it had a fractured skull. Telfair saved the baby in his case by a hasty extraction but got a deep cervical laceration. On the other hand, Lee states that he did not hurry (a breech case) and the child was not asphyxiated. Brodhead took 13 minutes after the baby cried to deliver his case with forceps, and states that the baby was in good condition and had a good color. In a number of reports (Freed, McNaughton, Gjersoe, Nystrom, Blumm) it was stated that there was no asphyxia. In Davies' case the child cried as forceps were attempted.

The blades could not be articulated. An anesthetist was sent for, and when he arrived and had gotten the patient under, a version and

extraction was done. The child was resuscitated and did well. Harrison reports a somewhat similar case, but he took his patient to a hospital where a live baby was delivered by Cesarean section. In Brull's case the crying lasted 3 hours. Reidhaar reports a case in which the baby cried 16 hours before delivery, and lived. The baby in Renre's case cried for $2\frac{1}{2}$ hours and was born alive 9 days later. Most interesting of all is the case of Teevan. He induced labor at the 8th month, using a female catheter for the purpose. In introducing it between the uterine wall and the membranes, he inadvertently ruptured the membranes and the amniotic fluid escaped. As he was washing his hands, preparatory to leaving the patient, the fetus cried 2 or 3 times. He withdrew the catheter. In a few hours labor set in and the child was born without further interference. Both mother and child did well. In Stoeckel's collection of 58 cases, only 8 infants were stillborn and he states that nearly all of these were directly due to the operations.

CASE REPORTS.

Case 1. Mrs. G. H. W., age 30, consulted me in her first pregnancy on July 7, 1926. She had had a thyroidectomy in 1919, an appendectomy in 1924, and a tonsillectomy in 1925. Her pelvis was normal (Sp. I. 21; Cr. I. $26\frac{1}{2}$; Troch. 32; D. B. 19; Ob. R. $21\frac{1}{2}$; Ob. L. $21\frac{1}{2}$; Circ. 82; Pubic arch 72° ; Bitrochanteric 8; Ant. Sag. $5\frac{1}{2}$; Post. Sag. $5\frac{1}{2}$; Ant. Post. 10) and her general physical examination and blood Wassermann were negative. On January 18, 1927, she began to have pains in the lower part of her abdomen as if she were going to menstruate. Two days later a vaginal examination showed a number of dilated veins in the vulva. On January 27, she complained that for 3 nights she had had severe pain in her back. These continued to grow worse and on February 3, I induced labor with a No. 5 Voorhees' bag. The position was an R. O. P. When the bag was out of the cervix, the patient was given sacral anesthesia. The bag was deflated and removed and the membranes were ruptured. The fetus' left hand prolapsed. The cervix was fully dilated but still covered the head. An attempt was made to apply the anterior blade of the forceps in the manner described by Kielland, but I was unable to rotate the blade on its long axis. The forceps were then applied in the

usual manner and, just as the anterior blade was being "wandered" into position, the baby cried so loudly that everyone in the room, including the patient, heard it. The posterior blade was inserted and an easy extraction was done. As soon as the face appeared at the vulva, fully four ounces of clear fluid drained out of the mouth and nose. There was no cord about the neck. The baby, a male, required no resuscitation. He weighed 3345 Gm. (7-6/16 lbs.) and was 51 cm. long. The puerperium was normal in every respect and the patients left the hospital on the 10th day. On March 3rd when the mother came to the office for her post-partum examination, her only complaint was that she was not giving enough milk for the baby.

Case 2. Mrs. B. G., a 20 yr. old, white, primigravida, presented herself at the I. V. N. A. clinic on January 7, 1929. Her history, general physical condition and blood Wassermann were negative, and her pelvis was normal (Sp. I. 25; Cr. I. 28; Troch. 30; D. B. 20; Ob. R. $21\frac{1}{2}$; Ob. L. $21\frac{1}{2}$; Circumference 83; Pubic arch 72° ; Bitrochanteric $9\frac{1}{2}$; Ant. Sag. 7; Post Sag. 7; Ant.-Post. 11; Conj. diagonalis $12\frac{1}{2}$). Labor was induced at the Sheltering Arms Hospital on April 8, 1929, a No. 5 Voorhees' bag being introduced into the cervix. When the bag was out of the cervix, it was deflated and removed. The patient was given sacral anesthesia. The head was now deep in the pelvis in a transverse position. Simpson's forceps were applied and an easy extraction was done. As the head distended the perineum, and before the brow appeared, the child cried twice. Both times a tugging on the forceps preceded the cry as if the fetus were making a deep inspiration. There was no cord about the neck. The perineum was intact. The child, a male, weighed 3544 Gm. (7-13/16 lbs.) and was 51 cm. long. He needed no resuscitation. On May 20, 1929, the mother and baby reported to the clinic for their post-partum examination and were found to be in good condition.

The second case should be classified as vagitus vagitus rather than vagitus uterinus. The two conditions from a practical and clinical point of view have much in common, the only difference being that, in the one, the head is within the uterus, and the other, within the vagina. My two cases are alike in that they were both forceps deliveries and both had sacral anesthesia. In neither case, therefore, was the

fetal respiratory center depressed by a general anesthetic. In neither case did the baby show asphyxia, although in the first case there was considerable fluid in the air passages. In both cases the membranes were ruptured just before the operative procedure was begun. There was no damage to the primiparous perineum in either case, although, in the first case, varicosities in the labia may have favored the entrance of air into the birth canal.

A priori, the Kielland forceps should be very favorable to the production of vagitus uterinus. Rotating the anterior blade on its long axis after it is introduced into the uterine cavity must lift the uterine wall from the fetal ovoid and therefore cause air to enter the uterine cavity. It is conceivable that it might also become entangled in the cord and thus interfere with the placental circulation; and there is also the possibility of compressing the child's head. Until now, however, there have been no reported cases following the use of the Kielland forceps. Anesthesia or the absence of anesthesia may also play a role;—when chloroform or ether is used, the fetal respiratory center is more or less affected and it then takes a stronger stimulus to cause respiratory movements. Spinal or sacral anesthesia cannot influence the fetal respiratory center, and when such are used or where no anesthesia is used, respiratory efforts are much more easily induced whether the fetus be in or out of the uterus. With gas anesthesia there is always the possibility of a certain degree of asphyxia which the fetus necessarily shares, and, if this be the case, the fetus may need no further respiratory stimulation. This aspect of the problem has not been discussed, and the reported cases do not give enough data from which to form a judgment as to the influence of anesthesia. If our ideas as to the mechanism of intra-uterine breathing and crying be correct, we are apt to see more cases with the adoption of the Kielland forceps and the newer obstetrical anesthetics.

CONCLUSIONS.

1. A great many babies that cry before they are born show no sign of asphyxia at birth.
2. The fetal mortality in cases of vagitus uterinus, while not excessive, seems to be due largely to efforts to save the baby from asphyxia by rapid delivery.
3. Gentle obstetrics is just as much indicated in this condition as at any other time.

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Medical Arts Building.

DISCUSSION.

DR. R. H. GARTHRIGHT, Vinton: Did the brilliant bard who once trod the classic ground of this University actually hear the weird and mournful voice of the Raven "sitting on the pallid bust of Pallas," when his pregnant brain gave birth to its most wonderful child?

In the dilating stage of that remarkable cerebral parturition he murmured dreamily.

"Once upon a midnight dreary, while I pondered weak and weary,

Over many a quaint and curious volume of forgotten lore,

While I pondered, nearly napping, suddenly there came a tapping,

As if some one gently rapping, rapping at my chamber door."

Has any obstetrician, sitting by a parturient's bedside, "nearly napping," really heard the sound of an infant voice coming from the deep, dark cavity of its mother's womb?

We know that only the *visionary* Poe listened to the *imaginary* voice, and looked upon *invisible* objects sitting on his chamber door.

There are doctors who sometimes see visions, dream dreams, and hear imaginary voices. Others are calm, grave, and unimaginative, who never see things invisible, or hear false auditory articulations. When these assure us that they have heard the cry of the unborn baby—heard it in the bright light of day, and also on dark and stormy nights,—we must accept their statements as true.

Obstetricians of wide experience, who have never listened to the *vox in utero* themselves, are convinced that many other doctors have. Among them may be mentioned the names of Dr. J. Whitridge Williams, of Johns Hopkins; Dr. Henry J. Langston, of Danville, Va.; Dr. I. E. Huff, of Roanoke, Va., and Dr. A. M. Mendenhall, of Indianapolis, who, while seemingly somewhat skeptical on the subject, modifies his remarks by saying:

"Of course, with the membranes ruptured, and with the head low down in a vertex presentation, or, with the breech, vaginal examinations and stretching theoretically could admit air in the birth canal, which the baby might inhale and then make vocal noises as it exhaled."

Dr. Prentiss Willson, of Washington, D. C., thinks this extremely rare and curious condition "a very grave danger to the child."

Dr. M. Pierce Rucker, of Richmond, Va., has given many infallible proofs of the verity of the phenomenon.

Let me briefly report two cases that have come under my own observation:

Mrs. B., aged forty years, of English birth, began to sense labor pains on the evening of February 23, 1925. This, I think, was her third confinement. The pains were light and far apart, and on the following day she had made very little progress. She lingered, moving lazily along, getting brief naps, until the night of the 25th, when the pains became more rapid and active. Dr. Leigh Buckner was called, and gave the anesthetic. After dilating the os, high forceps were with some difficulty ap-

plied. It required protracted traction to move the head. Almost exhausted, I paused for a brief rest, and during the pause, the baby uttered several feeble cries, which were audible to both the husband and myself. At that moment, I think, the baby died.

Dr. Buckner, to my great relief, exchanged posts with me, and after a time succeeded in delivering the girl baby.

Case II—June 15, 1929.

Scene: Lying across the bed in her village home, a primipara, aged nineteen years, in the throes of obstetric agony.

Labor had been in progress for five or six hours; os and perineum were rigid, and dilation was small.

Hypodermic tablet of morphine and atropine—Gr. $\frac{1}{4}$ was given, and an enema of warm soapsuds ordered.

Two hours later relaxation and dilatation marked; pains very active; progress very slow. At the end of an additional hour, pains less acute, and progress almost nil.

Under chloroform, administered by Dr. N. M. Robinson, forceps applied. Efforts to rectify the occipito-posterior position unsuccessful.

Instruments removed, and re-applied.

Before the second application of the forceps, repeated and distinct cries from the child were heard by Dr. Robinson, two other persons, and myself.

Fifteen or twenty minutes were taken in the delivery, and in a short time the baby cried lustily.

The mother had no external laceration, but there were a few contusions and abrasions about the infant's face and head, also a partial facial paralysis, due to forceps pressure. The cuts and bruises healed readily, and the local paralysis speedily disappeared.

Many physicians are unacquainted with the subject of vagitus uterinus. It may be a very grave condition, endangering the life of the child, and probably the mother also. When it happens, I think the infant should not be delivered with undue haste, because it may be one of the causes of still-birth. Too many infants are born dead that should come from their mothers living and breathing.

May not a child cry in the uterus, and the voice not be heard, and then die of asphyxia before its delivery can be effected?

For forty years I have been a member of this Society and an occasional attendant of its meetings. During these four decades, I do not think this subject has been discussed prior to the present hour, except probably, in a casual way, either before this Society or in the pages of the *Virginia Medical Monthly*.

Dr. Rucker has very impressively shown that it is a condition with which the profession should be better acquainted.

Query: Does the inhalation of air by the intra-uterine child disturb the physiology of the cord and placenta?

Opinion: Two factors are necessary to produce this phenomenon, viz.: the presence of air in the uterine cavity, and stimulation of the respiratory center by the application of an irritant to the body of the infant.

Fact: The paper read today by Dr. M. Pierce Rucker is the first, the clearest, most convincing presentation of the phenomenon ever brought to the attention of the Medical Society of Virginia.

DR. RUCKER, closing the discussion: If I could write "The Bells" or "The Raven," I should not mind being accused of having hallucinations.

By the way, it was Dr. Garthright's interest in this subject that led to my writing this paper. He

wrote me and asked if I had ever had a case, and my paper grew out of our correspondence over the matter.

The point we both want to emphasize is that there is no need of hasty or brutal obstetrics simply because the baby cries in utero. There is more likelihood of doing the baby harm by hasty obstetrics than there is of the baby's suffering ill effects from breathing and crying in utero.

MALIGNANT HYPERTENSION IN YOUNG PEOPLE.*

By DEWEY DAVIS, M. D.,

and

DOUGLAS VANDERHOOF, M. D.,
Richmond, Va.

The frequency of hypertension and the apparent ignorance of the medical profession as its cause justifies all of the studies that are being made in this condition. It is recognized that there are several types of essential hypertension and Keith¹ has divided his cases into malignant, severe benign and benign. The first is marked by rapidly progressive vascular disease ending in death; the last extends over a period of years, never manifesting the picture which will appear in the two cases we are reporting below unless, as Keith has observed, the benign type changes to the malignant form. The severe benign group is made up of borderline cases which show changes suggesting both of the other types.

Malignant hypertension occurs at almost any age. In 1928, Keith, Wagener and Kernohan² reported a series of eighty-one patients whose ages varied between 9 and 64 years. The majority were between 33 and 55. The development of this condition in young people is particularly distressing when we realize the hopeless prognosis which we are compelled to give.

CASE REPORTS.

CASE 1. White, female, age 19, seen March 16, 1927. She complained of chorea and high blood pressure. There was no history suggesting hypertension in her family. She had a severe attack of chorea at the age of 7, and at this time her tonsils were removed. The chorea recurred in milder form when she was 13. Other than this she had had no serious illnesses. Her menstrual periods began at the age of 14 and were always normal. After recovering from the last attack of chorea she seemed in perfect health except was considered nervous. While undergoing a routine physical examination for a swimming class in the winter of 1926, she was found to have a blood

pressure reading "over 200." Shortly afterward she became nervous and restless and was subject to occasional, severe, sick headaches. At times her tongue seemed thick and there was a tendency to dragging of the left foot. She had no urinary symptoms except rather frequent nocturia. Her weight had declined 16 pounds in the preceding year.

Her physical examination revealed the following significant findings: The pulse rate was 116 per minute; the brachial arteries felt hard and cord-like but not beaded or tortuous; blood pressure systolic 238, diastolic 165. The heart was slightly enlarged to the left and there was a faint diastolic murmur heard best over the sternum at the level of the third interspace. A moderate amount of moisture was evident over the lung bases. All of the deep reflexes were normal and there was no demonstrable weakness in any extremity. Ophthalmoscopic examination showed the presence of fresh retinal hemorrhages on both sides with scars of old exudate and some increased pigmentation. The retinal arteries were markedly sclerosed with the typical silver wire appearance.

The laboratory examinations showed hemoglobin 80 per cent; microscopic blood picture normal; urine, specific gravity 1.012, albumin distinct cloud, microscopic examination negative; non-protein nitrogen in the blood was 25 mgm. per 100 c.c. Wassermann reaction on the blood serum was negative. Electrocardiographic examination showed inversion of the T-wave in lead one and left ventricular preponderance.

Her condition was regarded as extremely serious and her family was informed that no treatment would probably be of value. Rest, mild sedatives and analgesics as necessary were recommended. She drifted from observation but it was learned that she died rather suddenly six months later.

CASE 2. White, male, age 23, seen October 17, 1928. His complaint was high blood pressure. Record of any hypertensive individuals did not appear in his family history. He had a mild attack of scarlet fever when 6 years of age and as a youngster he had several attacks of purpura in one of which he "nearly died." For three years he had suffered a good deal with headache, general in character. When seen he complained of some dyspnea on exertion and he was accustomed to rising two or

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

three times at night to void. His weight was six pounds below his average.

In the spring of 1926 a complete physical examination was reported negative. Six months later an insurance examiner found his blood pressure 130 systolic and a trace of albumin in his urine. His policy was granted at an increased rate. In July, 1928, the systolic pressure was 215. At this time he was put on a rigid low protein diet. His urine at times had shown considerable albumin and at others it had been clear. The morning specimen almost invariably contained a heavy cloud of albumin. He lacked energy and complained of feeling tired all of the time.

The significant findings in his physical examination were as follows: Patient was moderately thin; pulse rate 88; blood pressure, systolic 202, diastolic 138. The brachial artery was hard to palpation but not beaded or tortuous. There was no cardiac enlargement and the valvular sounds were clear with accentuation of the second sound at the aortic area.

Laboratory examinations disclosed a normal blood picture, including a negative Wassermann reaction. Urine, specific gravity 1.012, a heavy cloud of albumin, a few red blood cells and many hyaline and granular casts. The two-hour phthalein output was 55 per cent. Electrocardiographic examination was normal and examination of the eyegrounds did not disclose any vascular changes. It was felt that he had serious vascular disease and further consultation was advised. He spent the month of December, 1928, at the Mayo Clinic. At this time he had developed extensive retinal hemorrhages and exudate with moderate sclerosis of the retinal vessels. The blood pressure remained high and the diagnosis of malignant hypertension was made. They advised a low protein and salt diet, exercise in moderation and sun baths. At the last report from his physician he was practically blind from retinal hemorrhages and in desperate condition generally.

COMMENT.

The significant features in these two cases are the youthfulness of both, the markedly elevated systolic and diastolic blood pressures, the retinal hemorrhages and exudate, the normal kidney functional tests, the absence of anemia and the rapid progress of the vascular disease. The malignancy of the condition is certainly apparent. The picture is quite different from

that seen in chronic glomerular nephritis and can only be explained by widespread vascular disease with changes in all of the body tissues. The studies of Keith and his associates have conclusively demonstrated this. They found the most striking microscopic changes in the smaller arteries and arterioles while the larger arteries and capillaries are comparatively free from damage. The arterioles show marked hyperplasia of the intima and hypertrophy of the media and internal elastic lamina. There is little evidence of degeneration and calcification as is seen in senile arteriosclerosis. The kidney changes are apparently of the vascular type with little evidence of inflammatory manifestations. When death occurs in these individuals it is frequently due to a simultaneous breaking down of all vital functions giving rise to an obscure terminal picture, but symptoms pointing to predominant involvement of the heart, brain or kidneys may be present.

We are absolutely unable to ascribe any cause for the disease. In the benign type there is suggestive evidence that prolonged emotional strain may cause mild vasoconstriction leading to hypertension, but in malignant hypertension this factor is not apparent. The pathological manifestations suggest some toxic agent of the pressor type in the circulation or some obscure derangement of the sympathetic nervous system.

The prognosis in these cases is almost hopeless and as soon as the typical features are recognized we are justified in advancing such an outlook. No treatment so far advanced has any influence on malignant hypertension. We may get some lowering of the pressure, usually fleeting, with nitrites, but there is little reason for prescribing a low protein or salt diet unless kidney insufficiency is present. Efforts should be made to keep the patients as comfortable as possible with mild sedatives or analgesics as necessary. With these young individuals it is probably a mistake to confine them absolutely to bed as long as they are physically able to be up. Their days on earth are so short that they should be allowed to get as much pleasure out of them as is commensurate with their condition.

CONCLUSIONS.

1. Two cases of malignant hypertension in young people are reported.
2. They present evidence of diffuse vascular disease with retinal hemorrhages and exudate

but with preservation of good kidney function.

3. The prognosis is almost entirely hopeless.

4. Any treatment outlined should be designed to make the patient as comfortable and happy as possible without curtailing his activities any more than is necessary.

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Professional Building.

DISCUSSION.

DR. D. G. CHAPMAN, Richmond: In dealing with high blood pressure there are two things which I should like to stress, the classification and prognosis. We know very little about the cause and still less about the treatment, but there is something about the classification and prognosis which is very important.

Gall and Sutton, in 1872, described a condition which they termed arteriocalillary fibrosis, which they thought was allied with senile changes. These are probably the first reported microscopic studies on this condition. In 1914, Volhard and Fohr described a condition which they termed malignant sclerosis. In this they stressed the severe hypertension and terminal renal insufficiency.

In 1924, Keith and Wagener reported a series of cases in which the retinitis was characteristic in all cases. They used the name malignant hypertension and pointed out the fact that the renal function was often adequate until a terminal stage was reached. They classified their cases into benign, severe benign, and malignant.

The benign cases have high blood pressure and continue to have it year after year. Careful study of the renal, cardiac, and cerebral functions are not materially altered and they are able to perform their duties with little, if any, handicap.

The severe benign cases have had high blood pressure for years. They steadily but progressively get worse and are not able to perform their duties with the same ease. This type of person has had definite retinitis. By periodic ophthalmoscopic examinations, you can see the changes taking place. The kidneys may progressively show alterations. This type of case may progress into the malignant group.

The malignant cases show the characteristic retinitis with markedly elevated blood pressure and a normal or an abnormal kidney function.

The prognosis should be good in the benign types, guarded in the severe benign, and hopeless in the malignant.

The paper is of extreme interest and of great importance in dealing with hypertensive cardio-vascular diseases.

DR. DAVIS, closing the discussion: I appreciate very much Dr. Chapman's discussion of this paper. He has emphasized a number of points. Do not infer from my title that malignant hypertension occurs only in young people; it can occur at any age and is quite frequent around middle age. Every case

of hypertension should have careful study of the eye-grounds, chiefly because a good idea of the prognosis can frequently be obtained by this examination. I could not give you much from the standpoint of treatment; no one can; but I want to make a plea for these young people who have not long to live. They should not be put to bed, shut away from their associates, and allowed no activity at all. Give them a chance to derive some pleasure out of their remaining days, because they will most certainly be few in number.

PORTION OF SAFETY PIN IN RIGHT MAIN BRONCHUS: REMOVAL: BRONCHOSCOPY.*

By E. G. GILL, M. D., Roanoke, Va.

Patient, male, age four, was referred by Dr. D. B. Stuart, Dublin, Va., and was admitted to the hospital on September 23, 1929. The following history was given by the child's par-



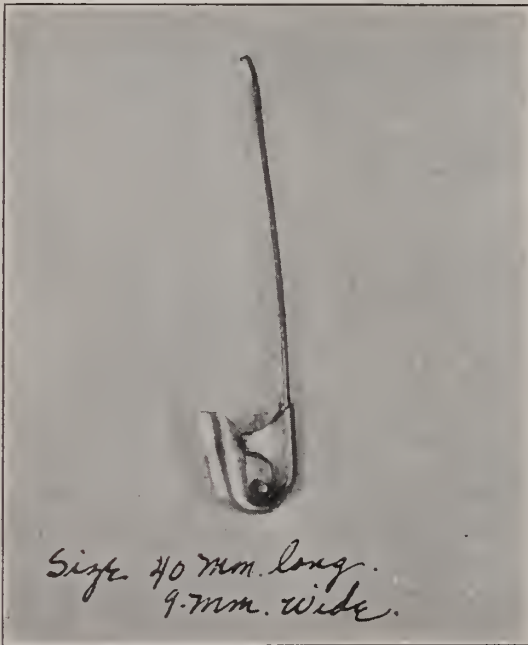
ents: While playing with a portion of a safety pin in his mouth two weeks prior to admission, the child suddenly began crying and the pin disappeared. There was no cyanosis or coughing at the time but the accident was accompanied by marked retching. The child wheezed and coughed at intervals during the following two weeks. These symptoms were more pronounced at nights.

EXAMINATION: Nose and throat negative; lungs—respiration somewhat jerky; breath sounds on both sides were wheezy and rales

*Read by title at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929

were present; no dullness on either side; heart normal. The X-ray examination of his chest showed the pin with the keeper in the right main bronchus and the point which was broken off at the spring, was embedded in the left wall of the main bronchus. The pin was lying in an oblique position.

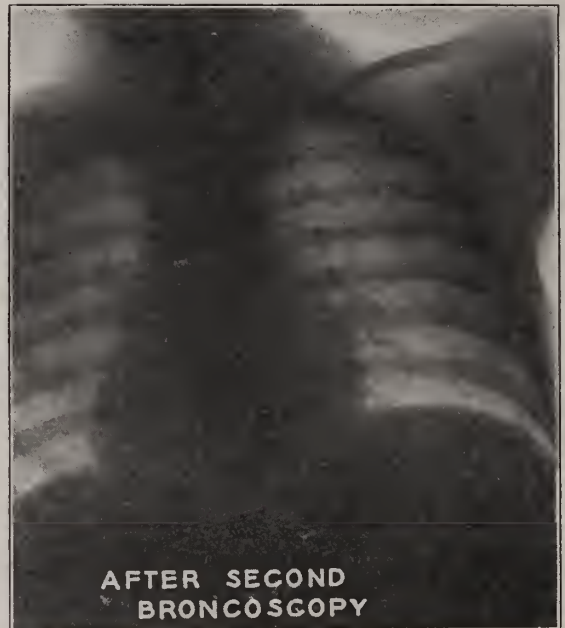
The first bronchoscopy was performed September 24th, twenty-four hours after admission to the hospital. The pin was easily located and was seized with grasping forceps. An effort was made to rotate the pin and bring the point into the bronchoscope. Due to the size of the tube, 5 mm., and to the swelling of the mucous membrane, we were unable to rotate the pin. An attempt to withdraw it in an oblique position would have resulted in the perforation of



the bronchus. At the end of twenty minutes the operation was discontinued and the patient sent back to his room.

A similar foreign body was placed in the bronchus of a dog and removed several times. After this experience with the dog, we were convinced that the only way we could remove the pin from the child would be through the use of a larger tube. Since it was impossible to introduce a tube more than 5 mm. in diameter through the larynx, we decided to perform a tracheotomy and introduce the bronchoscope through the wound. This was done five days following the first bronchoscopy. A 7

mm. tube was introduced through the tracheotomy wound. We were then able to rotate the pin and bring the point into the bronchoscope. The second operation was comparatively easy.



The child wore the tracheotomy tube for two days. The post-operative recovery was uneventful. The portion of the pin measured 40 mm. in length and 9 mm. in width.

COMMENT.

This case presents some unusual features in that the child did not have any coughing or choking sensation at the time of aspiration. It was also unusual in that the tracheotomy was necessary in order to use a tube large enough to permit the operator to rotate the point of the pin into the bronchoscope. Both operations were done under local anesthesia.

Department of Bronchoscopy, Gill Memorial Eye, Ear and Throat Hospital.

PULMONARY FINDINGS IN A CLINICAL STUDY OF ASCARIS INFESTATION IN CHILDREN.*

By CHARLES W. SCOTT, M. D., Richmond, Va.

PRELIMINARY

It has long been recognized that the larvae of the ascaris appear in the lungs and that, when there, they may cause marked respiratory disturbance. In our tuberculosis clinics we

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

have been finding cases with symptoms suggesting tuberculosis but showing atypical physical findings. These cases are kept under observation or sent to the sanatoria for observation to rule out tuberculosis. Some of these cases, most of whom are children, will have no history of contact with tuberculous patients, give negative tuberculin tests and atypical X-ray findings; but stool examinations reveal the presence of *ascaris lumbricoides* or hookworm ova and the symptoms and signs disappear after freeing them of the parasites. This occurs not only in hookworm but *ascaris* cases as well.

In 1888 Lutz (quoted from Koino) reported a case that had fever, pulmonary infiltration and respiratory difficulties, with complications of bronchitis, in a man thirty-seven years of age, after seven feedings with eggs of *ascarides*.

Stewart¹ in 1916 and 1917 in experimenting with mice and rats discovered the presence of *ascaris* larvae in the liver and lungs of the animals and concluded that the larvae after hatching in the intestines passed to the liver and thence through the blood stream to the lungs, and are coughed up and swallowed again to mature in the intestines.

Ransom and Foster² (1918-19), Goodey³ (1923), and others were able to produce pneumonia in mice, rabbits, guinea pigs, rats, goats, and sheep by experimental feeding with ripe ova.

Yoshida⁴ (1919) found the larvae in liver, lungs, spleen, kidneys, pancreas, abdominal cavity, and pleural sacs. He believes the larvae reach the lungs by direct migration through the tissues on account of their remarkable boring power.

McKibben⁵ (1919) reported a case with typical symptoms of pneumonia (T. 104, P. 160, R. 60) and negative physical findings who subsequently passed 370 parasites in the stools.

Koino⁶ (1922) reports two cases of pneumonia produced by experimental feeding of *ascaris* ova. His brother received 500 ova and had typical symptoms of moderately severe bronchopneumonia showing scattered rales chiefly of bronchial type which disappeared on the sixth day after onset. He, himself, took 2,000 ova and developed symptoms of severe pneumonia with scattered rales, chiefly whistling or bronchial type, scattered throughout both lungs. There was a great deal of expectoration, some of which was bloody, which

showed the presence of *ascaris* larvae from the third to ninth day. No larvae were found in his brother's sputum.

Ascaris lumbricoides is very prevalent throughout the mountainous sections of Virginia, and is found to much less extent in the eastern part of the state. It is chiefly found in rural communities because they do not as a rule have proper sewage disposal. It does not occur as a rule in urban districts where the town sewage system solves this problem. Therefore, a mountainous section was chosen for a study.

This study disclosed that the children in some localities and some families show heavier infestations than others. Lack of time and funds prevented a clinical study of all the children, in whose stools parasite ova were found. So we chose the families who showed the heaviest infestations. Sixty-four cases were studied, ten of which did not show *ascaris* infestations.

SYMPTOMS

The clinical symptoms were variable. Pains in stomach, nausea, headaches, pains in back, fatigue, and frequent colds were some of the complaints. Some mothers complained of their children having poor appetites and others unusually good ones. Some complained of their children "picking at their nose" and "gritting their teeth at night," which are familiar complaints to all the rural practitioners. There were very few complaints among the ten non-infested cases. However, they did show a history of fatigue and frequent colds in equal proportion to the infested group.

PHYSICAL FINDINGS

Nasal discharge and cervical adenitis were very frequent findings in the infested group, although present to much less extent in the non-parasite cases. The character of the discharge was not that of coryza or severe infection in the upper respiratory tract but more of a local irritation with small amount of muco-purulent discharge. The nasal spaces appeared dirty as if the children had been picking at their noses as the mother had said.

Noticeable enlargement of the cervical lymphatic glands was present in two-thirds of the parasite cases in comparison to one-third of the non-parasite cases. None of these cases, however, showed exceedingly large glands as seen in Hodgkin's disease or tuberculous lymphadenitis.

A small percentage of the cases in both groups showed change in percussion and breath sounds. These included impaired resonance and prolonged expiration over the hilum regions, apices, and bases. Occasionally a few bronchial rales were elicited over the hilum and basal areas. These findings occurred in one group as much as in the other.

In the parasite group 64 per cent were from 7 to 15 per cent underweight while 36 per cent were normal or overweight. The majority of the latter had the rosy cheeks and happy appearance more near the normal child and on investigation showed light infestation with parasites. But the majority of the undernourished group looked thin, with dark circles under the eyes, showing fatigue posture and soft flabby undeveloped muscles, lacking the bright happy expression that should be there. This group showed as a rule very heavy infestation with parasites.

X-RAY FINDINGS

Stereoscopic X-ray films were made in the Norton Hospital of fourteen cases. These cases were chosen from the families and groups showing the heaviest infestations. The films were studied with Drs. Kennon Dunham and John Skavlem, of Cincinnati. There was no X-ray evidence of pathology in the bony framework of the chests. The heart and aorta appeared normal in each case and no pathology of the diaphragm or pleura could be made out.

There was uniform thickening of the hilum shadows, but no evidence of definite calcification in the hilum or parenchyma. No unusual large lymph glands were found in the mediastinum.

There was also uniform thickening of the trunk markings in the lower lobes, and in a large number of the cases the trunk markings of the upper lobes were thickened near the hilum but not traceable to the periphery except in two cases. In these, the trunks were heavy, beaded and traceable to the periphery in the upper lobes, which suggested early tuberculous lesions and history of contact with tuberculosis patients in the home over a period of time. But neither of them had symptoms or physical findings suggesting pulmonary pathology. They were the only definite tuberculosis contacts of the group that were X-rayed.

There was no evidence of any pneumonic exudate in any of the cases.

X-RAY CONCLUSIONS: The X-ray findings

were very similar to those found in any acute respiratory infection, such as bronchitis, pertussis, etc. The heavy bronchi accompanied by heavy hilum shadows is indicative that the peribronchial lymphatics play a part, with resulting large lymphatic nodes at the root of the lungs.

DISCUSSION

We did not expect to find pneumonia in any of these cases because none of them appeared very ill. The work was done in the late summer which gave ample time for heavy infestation from the warm soil and for the occurrence of any pneumonia from that cause.

From the beginning, I observed the frequency of nasal discharge of the type I have described which led me to believe that there were larvae passing through the respiratory tract, causing the irritation there. This would account for the saying by the laity, "The child has worms because he picks his nose," that has passed down for generations. Koino⁶ reports the olfactory nerve became sensitive in his own case.

Although the enlargement of the cervical lymphatic glands occurred in 65 per cent of the cases, which is not a very much larger per cent than that found in the average group of school children, that along with the uniform heavy hilum shadows and thickened bronchi as noted on X-ray, suggest that the lymphatics of the respiratory tract are affected. Looss⁷ (1911) observed the capture of ankylostome larvae in the lymph glands two days after infestation, especially in the groins and shoulders, and rather often in the lymphatics of the lungs.

A small percentage of these cases had suspicious or bad looking tonsils and there were some dental caries. But I do not believe that focal infections in this group were present to such an extent as to account for the large percentage of malnourished children and cases of cervical lymphadenitis.

The diagnosis of intestinal parasites is comparatively easy as the ova can usually be found in the stools when carefully searched for, but it is necessary to have three negative stool examinations before the case can be considered as negative and then they may pass an adult worm although no eggs can be found in the stools. It may be a male and the only one present.

Oil of chenopodium is generally considered the best remedy and is present to a large ex-

tent in most patent vermifuge medicines which would account for their success, often after santonin and calomel treatment has failed. The usual procedure is to give ten minims of oil of chenopodium just after awakening and to repeat this every hour for three doses in adult cases. For children the dose is one-half drop of oil of chenopodium for every year of age. Two hours after last dose, castor oil or magnesium sulphate is given. The best results are obtained when magnesium sulphate is given the preceding night and light breakfast is taken.

It is very important to have repeated stool examinations in a week or two following the treatment, to determine its efficiency. The treatment is not always satisfactory with any drug and may have to be repeated several times before the patient is entirely rid of the parasites.

SUMMARY

1. The large percentage of malnourished children in this series indicated that ascaris plays an important role as one of the causes of malnutrition.

2. Physical and X-ray findings suggest that the cervical and peribronchial lymphatics are affected by the passage of the larvae through the lungs and upper respiratory tracts to the mouth.

3. Pneumonia occurs occasionally but not commonly in ascaris infestation.

4. As in childhood tuberculosis, the symptoms are often misleading and physical findings very frequently reveal no pathology.

5. Possibility of ascaris infestation should always be borne in mind in making a diagnosis of pulmonary diseases.

Reports of experimental work with animals show numerous small hemorrhagic areas scattered throughout the parenchyma of the lungs on postmortem when the animals were given large doses of ripe ova. Accepting the theory that injured tissues are more receptive to infections than the normal ones, it is logical to believe that ascaris infestation would predispose the child to tuberculosis and other pulmonary infections.

The study† to which I have referred was made under the general direction of Dr. W. W. Cort, of Johns-Hopkins University, and the

writer's part in the study was more particularly concerned with pulmonary symptomatology. This aspect is important for, while the work is still in its infancy, it is already clear that ascaris infestation has been considered too lightly by the profession and that pulmonary as well as serious gastrointestinal pathology is caused by ascaris.

NOTE:—I wish to tender grateful acknowledgment and thanks to Dr. W. W. Cort, G. F. Otto, and L. A. Spindler, of the School of Hygiene and Public Health of Johns Hopkins University, and Dr. W. R. Culbertson and staff, of Wise County Health Unit, for their valuable aid in making this work possible.

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DISCUSSION.

DR. W. A. BRUMFIELD, Farmville: There are a few points I should like to emphasize, though Dr. Scott has covered the subject so well that he has left but little for me to say. I should like, however, to run briefly over the life history of the Ascaris. The adults are supposed to live only in the intestines of human beings and possibly the pig. Each healthy female, while in the stage of reproduction, lays from 80,000 to 250,000 eggs a day. A child will often have from fifteen to twenty of these worms, most of them being female. You can estimate the daily output of eggs from such a child.

Scattered about in the soil, some of these eggs will live through the winter. If swallowed within a few days after passing from the host they will pass through the person or animal taking them without hatching. It takes about ten days, under strictly optimum conditions, for them to complete embryonic development in the egg. After this stage has passed, they may remain in the soil for months and months and, if taken into the stomach by a rabbit, guinea-pig, rat, dog, hog, or any other such animal, will hatch out. The embryos pass through the portal circulation and into the right side of the heart. When they come to the capillaries of the lungs, many are so large that they can not pass through them; they break through the capillary walls into the alveoli of the lungs. They now pass up the bron-

†These studies were carried on in cooperation with a project for the study of Ascariasis in the United States which is being carried out under the auspices of the National Research Council with the aid of a grant from the American Child Health Association.

chial tree through the larynx and are again swallowed. In any but the host they will then be passed on and discharged through the rectum. In the human host many of them are passed on, but many of them will develop to maturity, and some ten weeks after they are ingested the parasites are mature and the new host is discharging eggs and parasites.

Think of a child playing about where the soil is heavily polluted and how that child, with soiled hands, etc., may ingest enormous numbers of these parasites. You can readily see that the mechanical damage in the lungs, if it did not in itself cause an inflammatory condition or anemia or something of that kind, by its trauma predisposes to infections by bacteria. At the same time, there is a certain amount of toxic effect which undoubtedly harms the child and reduces his resistance to disease.

The geographic distribution of the more common intestinal parasites is most interesting. *Ascaris*, whipworm, and hookworm are many times more prevalent in the Appalachian Mountains than in other portions of Virginia; *Ascaris* and whipworm are quite prevalent nearly everywhere along the Blue Ridge Mountains and west of them, in sections in which there is no hookworm; and all of these parasites are relatively very rare east of the Blue Ridge.

If *Ascaris* is often responsible for fatal summer pneumonia in children, a study of death certificates in the State Bureau of Vital Statistics should show a marked difference in its occurrence in different sections of the state.

DR. LAWRENCE T. ROYSTER, University: In view of the life cycle, as pointed out by Ransom and emphasized this afternoon, is intestinal treatment, as outlined by Dr. Scott, sufficient to remove all eggs from the pulmonary and intestinal tracts?

DR. SCOTT, closing the discussion: I do not think I am in position to answer Dr. Royster's question, because I do not know just how much work has been done along that line. The literature that I have been able to read would indicate that the larvae do in the cycle always get back to the intestines, and it seems that with repeated treatment, we would be able to get rid of them all—provided, as Dr. Brumfield has brought out, the children are not allowed to play in the infested soil or in the pig lots and become infested again, as quite frequently occurs, especially in the rural sections and out in the mountain sections, where this study was undertaken.

The chief point that I wanted to bring out is that before we make a diagnosis of tuberculosis, upper respiratory infections or other lung diseases, we should do the simple procedure of examining the stools for parasite ova and rule out that cause before we make a too hasty diagnosis.

THE USE OF AND INDICATIONS FOR FORCEPS.*

By ROBERT P. KELLY, M. D., F. A. C. S., Lynchburg, Va.

There is probably no general practitioner who is not called upon occasionally, at least, to use forceps; consequently I feel that a discussion of this subject may be of interest to all, and especially helpful to some of us. I

do not hesitate to say that there is, perhaps, no other obstetrical operation that results in as great mortality and morbidity as forceps deliveries.

As we all know, there are two methods of applying forceps, the pelvic and cephalic. The first I mention only to condemn. It should never be used. The second, properly employed, is one of the most valuable aids to successful delivery.

At this point it may be well to classify forceps. Their classification varies somewhat with different authorities, the term "high forceps," being especially loosely used. "High forceps," in the generally accepted meaning of the term, should never be used. An occasional exception may be made if an expert, such as Williams or Bill, is the operator; but most of us should avoid "high forceps" altogether. The classification is as follows:

(1) Inlet forceps (high), (2) Mid-plane forceps (mid-forceps), (3) Outlet forceps (low forceps). (1) In inlet forceps the head is not "fully engaged." In other words, the head is more or less fixed, but the bi-parietal diameter is not *beyond* the inlet. This diameter may be at or above the inlet. In this classification, I refer only to those cases where the head is more or less fixed, or partially engaged. It is these cases of "partial engagement" I have in mind, when I speak of "high forceps." Of course there are other cases where the head is *floating*, not fixed, and these are the cases to which we *usually* refer when we speak of "high forceps." However, in either case, the operation is difficult and dangerous, and should not as a rule be attempted. In those cases of "partial engagement" it may occasionally be possible to deliver as in mid-plane forceps.

(2) "Mid-plane" or mid-forceps. Here engagement is complete, rotation is incomplete, or has not occurred, there is deep transverse arrest or occiput posterior. (Here most of our difficulties arise).

(3) "Outlet" or low forceps. In this case the head is fully engaged, i. e., engagement is deep, and rotation is complete, or nearly so.

Rules of application: Forceps may be applied (1) to the sides of the child's head, as to the outlet; (2) to the sides of the pelvis, as at the inlet—(only very rarely indicated); (3) obliquely; that is, as a compromise between a pelvic and a cephalic application.

*Read by invitation before the Alleghany-Bath County Medical Society at Clifton Forge, Va., July 17, 1925.

Here one blade is applied to the anterior malar bone, and the other to the posterior parietal bone.

Stages of forceps operation: (1) application of the blades; (2) adaptation, or locking of the blades; (3) extraction of the head; (4) removal of the instrument.

For the operation we should, of course, have surgical preparation. The patient should be on the table, in a lithotomy position, with buttocks at edge of table. There should be *ample assistance* and a complete set of instruments and drugs at hand. Last, and of equal importance, a careful diagnosis as to the position of the baby's head should be invariably made.

Conditions necessary for the use of forceps are:

1. The child must be alive, except when head is on perineum.

2. The head must be engaged for mid-plane or low forceps, and must be at inlet for "high forceps," preferably not floating.

3. The cervix must be fully effaced and the os *completely* dilated. In an emergency Duhrssen's incision or manual dilatation (manual laceration) may be done.

4. The membranes must be ruptured.

5. The pelvis must be large enough—no disproportion. This is often overlooked.

6. There must be complete surgical preparation, including *surgical* anesthesia.

Indications for forceps are, in general:

1. Insufficiency of the powers of labor. (a) Primary weak pains. (b) Secondary weak pains. (c) Relative weak pains.

2. Conditions jeopardizing the life or health of the mother, acute diseases—heart, lungs, thyroid, eclampsia, typhoid, etc.

3. Conditions jeopardizing the life of the child, asphyxia, prolapsed cord, placenta previa, abruptio placentae, etc.

The contra-indications for forceps are:

1. Hydrocephalus.

2. Highly contracted pelvis (below 8 cm. in flat and below 8.5 cm. in justo-minor pelvis).

3. Dead child, except when the head is on the perineum.

There are various cephalic applications, but it would require too much time to take up each one and discuss it separately; for instance, face, brow, occiput posterior, aftercoming head, and the various positions of these presentations. My purpose is merely to empha-

size some of the cardinal points in the use of forceps. When we think of the definition of forceps—"An instrument designed to extract the fetus, by the head, from the maternal passages, without injury either to the child or the mother," we must be reminded that the instrument should be very carefully used. I feel sure that we are often somewhat careless in the use of forceps, and it is this point above all else that I wish to emphasize. We may be sure, if we have fulfilled the requirements of the application (such as complete dilatation, no disproportion, etc.,) that we will deliver the baby, and that without injury or the employment of very great force, provided the head is in the correct position, and the traction in the proper direction. Our motto, in other words, should be, "*Non vi sed arte.*"

It has recently been shown by records of various maternity hospitals that, when forceps are *properly* used in primiparae, the number of cerebral hemorrhages is considerably less than in cases of normal deliveries left to nature with *prolonged* second stages. It would seem, therefore, that the injury in forceps deliveries is not in the use of the instrument, *per se*, but in the manner in which it is used.

On the strength of my own experiences and those of other obstetricians of my acquaintance, I am constrained to believe that more damage is done by the indiscriminate use of forceps than by any other thing, not excepting bags and Potter's version. At the same time I am convinced that many women remain in the second stage of labor entirely too long, and that in such cases, forceps are definitely indicated to terminate the labor. Usually it is considered advisable to use forceps if the patient has been in the second stage of labor for one hour and does not indicate that she will deliver promptly. Unless it is possible to comply with the conditions necessary for a *good* forceps delivery and unless the operator is capable of doing forceps deliveries under favorable conditions, it would probably be better to give the patient more time than one hour; for nothing is more hazardous to both mother and baby than a forceps delivery in the hands of a physician who does not know the proper use of such instruments.

To sum up I would say;

- (1) Forceps should never be used unless the cervix is completely dilated, except in emergencies, when Duhrssen's incision may com-

plete the necessary opening. Manual dilatation is not satisfactory.

(2) Forceps should not be used (as a rule), unless the head is engaged or the bi-parietal diameter is at the inlet, the latter very *rarely*.

(3) Forceps should not be used without complete surgical preparation, catheterization, and complete anesthesia.

(4) Forceps should never be used unless the position of the head is absolutely known. Locate the ear, do not depend on sutures.

(5) If rotation is not complete, manual rotation of the head should be done and the application of the left blade should be made with the right hand over the baby's left ear as a guide.

(6) Forceps operations in cases of primiparae should be preceded by episiotomies.

(7) After every delivery, and especially in forceps cases, the cervix and perineum should be very carefully *inspected* for lacerations and if any are found there should be immediate repair.

(8) In from six to eight weeks after delivery every puerpera should be examined to determine whether or not there is *any* condition requiring attention. This is extremely important (though often not done) and will help the patient and save the physician much embarrassment.

1112 Church Street.

CORONARY DISEASE.*

By WALTER P. ADAMS, M. D., Norfolk, Va.

Disease of the coronary arteries occurs more frequently than is generally recognized. Until comparatively recent times, coronary disease remained a casual autopsy finding, and but little practical interest was attached to it. There now is a life expectancy of about fifty-five years. This figure has been lengthened by combating high infant mortality and infectious diseases, and by dissemination of hygienic education, and not by increasing the average adult expectancy of life. Statistics of the past two decades have shown a steadily mounting incidence of heart disease, and heart failure is now the chief barrier against increasing this adult expectancy of life.

Observations on large series of cases show that the most common cause of heart failure

deaths beyond forty is hypertension. Many of these deaths are reported as chronic myocarditis or chronic nephritis but are in reality heart failure deaths secondary to hypertension. The next largest number of heart deaths beyond forty is from coronary disease. Therefore, the increasing interest is well merited. Truly coronary disease strikes at life and at comfort in living as no other human ailment. It accounts for a large number of sudden deaths, particularly for many of the deaths that the newspapers ascribe to acute indigestion.

Anatomically we may classify coronary disease as being:

1. Sclerotic (a result of endocarditis).
2. Thrombotic (partial or complete).
3. Embolic.

The sclerotic type is a result of a slowly increasing endarteritis which causes gradual closure. Although ending in many cases in complete closure with symptoms, there are numbers of these cases which have slight, if any, change in the myocardium and no disturbance of function. Death in these latter instances is from causes unrelated to the cardiac condition. In these cases with gradual change the following abnormal conditions possess a more or less casual significance:

1. Cardiovascular heredity.
2. Mental strain.
3. Overeating (this leads first to hypertension and then to coronary disease).
4. Focal infection.
5. Syphilis (this is mentioned because of the frequency of blocking of the coronary orifices by syphilitic aortitis).

In contrast to the gradual closure of the vessels, the thrombotic and embolic types occur with tragic suddenness and give a separate and distinct clinical picture.

In either type, the threads on which the patient's life hangs are the anastomotic means whereby nature continues to nourish isolated portions of myocardium. That capillary communications between branches of the two coronary arteries occur has been demonstrated by Gross. In a large series of observations he has found a certain relationship between age and coronary anastomosis. That is, with advancing years the collateral circulation between the two coronary arteries becomes more elaborate, which suggests that a man of sixty is better prepared for a coronary accident than

*Read at the meeting of the Seaboard Medical Association of Virginia and North Carolina, in Newport News, Va., December 3-5, 1929.

a man of forty. This elaboration of anastomosis, observed by Gross, occurred particularly in the interventricular septum. Kugel has described a large anastomotic blood vessel which is constant in occurrence and runs in the auricular walls, furnishing a wide channel between the right and left coronary arteries. He noted that, in several hearts which were the seat of arteriosclerosis, this vessel (the *arteria anastomica auricular magna*) was of unusually large caliber, showing its use when necessity arose.

Oberhelman has proved a precapillary anastomosis by showing the escape of metallic mercury from the mouth of one of the coronary arteries in from one to three minutes after its introduction into the mouth of the other artery at 125 to 150 mm. pressure. This demonstration was most convincing when observed under the fluoroscope.

Wearn, of Boston, has shown a direct communication between the coronary arteries and the chambers of the heart, through the Thebesian vessels. Clinical evidence that these vessels actually assume the function of the coronary arteries has been supplied by observations on patients with complete obliteration of both coronaries from syphilitic aortitis. Such hearts maintain an adequate circulation for some time, with no blood supply through the normal channels.

The functional significance of coronary disease depends on the heart's capacity to compensate for the lesion, and the heart's capacity to compensate depends on several evident factors. First is the time element. A gradual narrowing of the lumen as in the sclerotic type of disease does not cause the serious results that occur with the sudden block, where no time is afforded for the development of collateral channels. In fact, a gradual narrowing of the coronary, as mentioned before, may cause no symptoms at all. Miller and Weiss illustrated the fact that indisputable and advanced coronary disease need not lead to myocardial disease or hypertrophy. Some patients of this type had even a smaller heart than normal. In these cases there was no hypertrophy because the patient possessed a potential mechanism ready to function through adequate collateral channels whenever the coronary circulation was gradually blocked or impeded.

Second in importance to the time element comes the caliber of the occluded vessel, be-

cause the larger the artery the greater will be the area of myocardium deprived of blood supply. Other factors are the extent of possible anastomoses in each individual heart, and the condition of the heart muscle as regards previous disease and cardiac reserve.

Recent additions to the literature of this subject in the line of physiology are interesting. Gruber and Roberts have shown the importance of changes in pH (hydrogen ion concentration) upon perfusion rates of the coronary vessels. They showed that adrenalin, pituitrin and other commercial glandular extracts definitely caused dilatation of the coronaries if used in the commercial form. Later, however, they saw that the dilatation observed was not due to the preparation but to the acidity of the injected fluid. Raising the pH of these same preparations changed their actions from vasodilators to vasoconstrictors.

Guggenheimer and Fischer have experimented with small doses of I and Br. as vasodilators of the coronaries. It was found through perfusion methods, that, as the concentration of solution is reduced, the vasodilator action is increased. Applying this therapeutically they recommend only 5 m.m.g. each of KI, and KBr t.i.d. in aqueous solution. This combination, they feel, is effective in mild or early grades of arteriosclerosis where the reactivity or vasodilator action of the vessels is not lost. Other recent physiologic conclusions regarding the coronaries are by Zahn, who reported that the heating and cooling of the sinus node has no influence on the coronary circulation of a terrapin; and by Miller, Smith and Graber, who found that the production of auricular or ventricular premature contractions did not have any significant effect on the rate of flow from the coronary sinus. In auricular fibrillation, the rate remained fairly constant or was moderately accelerated. A reduction and an acceleration of the cardiac rate were, within certain limits, associated respectively with a decrease and an increase in the rate of coronary circulation.

The fatal circulatory collapse in coronary thrombosis is probably due to ventricular fibrillation from sudden ischemia of the heart muscle. Such cases are usually dead when seen by the physician, but accurate diagnosis is at times important from a medico-legal standpoint,—for instance, a coronary thrombosis occurs while ascending steps, the patient

falls, and injures his head. The difference between a cardiac death or a traumatic death may mean a great deal to the insurance company and to the patient's heirs. A post-mortem would, of course, be necessary.

The most marked symptoms of coronary arterial disease come with acute occlusion of a large vessel, although severe symptoms are often produced by the lesser grades of sclerosis. Changes from normal, such as limitation of cardiac reserve; marked general arteriosclerosis; beginning congestive failure in old age with no evidence of hypertension, pericarditis, or valvular disease; certain electrocardiographic changes; changes in aorta as seen in X-ray,—all of these indicate the probability of coronary stoppage. The patient need never have suffered from angina pectoris, as coronary sclerosis without angina is common. The usual picture of acute occlusion is different. Symptoms of great violence and of extraordinary gravity occur. If death is not instantaneous, it may follow after a short interval. If the myocardium weathers the attack, we have a syndrome with which we are all familiar. The severe heart pain, physical and mental shock, falling blood pressure, dyspnoea, disturbance of heart rhythm, appearance of mitral murmur, leucocytosis, temperature, pulmonary edema, and accompanying gastro-intestinal symptoms are present in whole or in part.

There are interesting characteristics concerning some of these symptoms. The attack of pain is unrelated to exertion, is unrelieved by rest or nitrites, and is often persistent for days. Its severity is characteristic. The patient, if recovered from collapse, may become panic-stricken because of its excruciation. Frequently sudden relief from pain occurs after twenty-four hours and the patient appears well, only to suddenly collapse again for the last time.

The pain is not always precordial or substernal in location. Frequently it is referred to the upper abdomen, either side, and is strongly suggestive of some acute surgical condition.

The leucocytosis accompanying infarction of the myocardium may develop as early as one hour and fifteen minutes after the onset of the symptoms. The counts vary nine to twenty thousand, with PMN-s from 81 per cent to 83 per cent. The average case has a count of from fifteen to twenty thousand. Not only

is it important to make a count for the purpose of diagnosis, but also for prognosis and management. A high count persisting in the absence of a responsible complication indicates progressive necrosis. This in turn leads to acute aneurysm or to rupture of the heart. The leucocyte count, then, is very valuable in judging the condition of the patient.

In the cases suspected of gradual occlusion, tender spots on the chest wall are a most significant sign. These spots are found over the second, third and fourth ribs to left of the sternum and over the second and third ribs in the outer part of the right pectoral muscle. The left ventricle and aorta are, on account of the higher pressure to which they are subjected, much more liable to degenerative changes than the right ventricle and pulmonary arteries. These changes produce direct irritation of their nerve endings and the tender spots are referred from these nerve endings (Kahn). In some instances after pain and tenderness have been present for a considerable time, they are succeeded by anesthesia. In individuals without heart involvement tender spots on the chest wall were not found in any case. The tender spots will persist for a very long time and sometimes continue throughout the intervals between attacks. They are, of course, more marked just after an attack.

Generalized arteriosclerosis leads one to suspect a coronary sclerosis. The coronaries are usually the first or among the first to show an endarteritis. Some significance is attached to the absence of the dorsalis pedis pulse. This is said to be indication of a widespread endarteritis and constitutes circumstantial evidence of coronary disease.

The electrocardiogram has been of distinct value in the diagnosis of both types of the disease. It usually gives indisputable evidence of a coronary accident. It also assists in prognosis, helps with differential diagnosis in the gradual or insidious cases, and in any case will give us an evaluation of the myocardial function of a partially infarcted heart. The most outstanding and constant change is the origin of the T-wave, starting from a point upon the QRS group at some distance from the zero level, or, expressed differently, it is the loss of R-T interval with the branching of the T-wave directly from the descending limb of the R. Other indications of coronary

changes are very low voltage, intra-ventricular block, or marked abnormality of the T deflections without digitalis. Various types of arrhythmias are frequently present which are impossible to unravel clinically. It does not seem surprising that such irregularities occur when we realize the great interference with blood supply to the nodes and the Bundle in these cases.

There are certain criteria by which we judge the improvement of either the suddenly occurring type or the chronic type. In the chronic type the prognosis depends on the actual ability of the myocardium to continue functioning. After thrombosis, the future of the patient depends on the healing of the infarct in the heart wall. The gravity of the situation is enormous and, unless a lengthy physical and mental rest is obtained, a myocardial insufficiency death is to be expected. Improvement in either type may be estimated by:

1. Rise in blood pressure.
2. Decrease in congestive failure.
3. Disappearance of leucocytosis.
4. Changes in electrocardiogram.

It is impossible to lay down absolute points of differentiation between this and conditions with similar symptoms. The important changes to be expected and some of the aids to diagnosis have been gone over above. The more frequent conditions confused are common heart disease with pain, angina pectoris, biliary colic, ruptured gastric ulcer and acute pancreatitis.

There is nothing new to offer in the line of treatment. Morphine is the mainstay. It meets the emergency, secures relief from pain and anxiety and induces rest. Each hour gained increases the possibility of restoration of blood supply to the infarcted heart muscle. The dosage must be large enough to relieve the symptoms and if possible to prevent the progress of the accident.

The absolute rest just spoken of should extend through a number of weeks, no matter how much clinical improvement occurs. Digitalis is an aid to the congestive failure but is not called for in the acute emergency. Other cardiac stimulants may be given for the weakness following the immediate attack. If improvement continues, proper nursing care is of great importance. Later there should be a midday rest for the remainder of the patient's

life. Moderation in all exercise, in eating, even in thinking, should be practiced, and the patient's life should be one of mere existence rather than one of living and doing.

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NEURITIS.*

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Neuritis is one of the most maligned diseases in the entire field of medicine. The laity and medical men in general are eager to label almost any pain as neuritis. There are few medical diseases in which the symptom complex is so clear cut as it is in neuritis. Pain is only one of the many distinguishing symptoms and it may not be present in the disease. On the other hand, there are medical diseases which are seldom recognized as neuritis, but which are true types of it, Bell's palsy and herpes zoster being examples. Neuritis is far from being as common a disease as one would suspect from the frequency with which the diagnosis is made. True neuritis is, in fact, a rather uncommon condition.

Neuritis may involve a purely motor nerve, a purely sensory one or a mixed nerve which contains both motor and sensory fibers. Even in the inflammation of a mixed nerve all of the axones are not necessarily affected to the same degree, hence, either the motor or the

*Read before the Association of Seaboard Air Line Railway Surgeons, in the Fall of 1929.

sensory fibers may be more affected, with the preponderance of symptoms respectively expressed. As a rule, when a mixed nerve is attacked, the sensory fibers are more greatly affected at first and the motor ones return to their normal function more slowly.

Neuritis may be limited to a single nerve, as the sciatic, the radial, the ulnar, the facial or others. It may be limited to a plexus such as the brachial plexus or there may be a symmetrical distribution of nerve inflammation in the extremities which is known as poly or multiple neuritis. The French neurologist, Sicard, called the inflammation of a spinal nerve root radiculitis. It is in reality a neuritis, but is clinically distinguished from it by the segmental distribution of the sensory and motor disturbances.

Anything which will lower body resistance, such as overwork, exposure and prolonged dissipation, are predisposing factors of the disease. Neuritis is rarely a primary condition and is usually dependent upon infections elsewhere in the body, upon toxemias, drugs, chemicals, trauma, thermal influences and metabolic changes.

Possibly the simplest form of neuritis from the standpoint of diagnosis is that resulting from trauma. Injury to a nerve resulting in inflammatory process may follow general anesthesia in which the arms are held in one position for a long time and pressure is made on a nerve or group of nerves during the operation; badly fitting crutches; sleeping on one's arm, causing a wrist drop; pressure upon a cervical rib during operation or when the arms are held in one position a long time and direct injury to a nerve from a blow, constitute a few of the traumatic factors.

Toxic and infectious diseases, such as rheumatic fever, typhoid, influenza, diphtheria, malaria, syphilis, pneumonia and gonorrhea are not infrequently the cause of any type of neuritis. There is also a nodular enlargement along certain nerve trunks due to leprosy in which there is pain, atrophy, sensory disturbances and muscle weakness. Neurofibromatosis or von Recklinghausen's disease should be mentioned. Tubercles have been observed along the course of nerve trunks in pulmonary tuberculosis. The toxemia of pregnancy is occasionally accompanied by true nerve inflammation. Metabolic diseases, such as gout and diabetes, are at times attended by a neuritic

syndrome. The disease, beriberi, is always accompanied by a multiple neuritis. Anemias, leukemias and other nutritional disorders are occasionally factors. Encephalitis has as a part of its clinical picture a widespread peripheral neuritis which is much more often found than one would suspect. In these cases of encephalitis there will frequently be marked sensory and trophic disturbances, paralysis and cranial nerve involvement. Certain drugs and chemicals seem to have a specificity for certain peripheral nerves, causing an inflammation of them. Lead and alcohol frequently cause neuritis; copper, zinc and arsenic less frequently.

The symptoms of neuritis depend upon what type of nerve is involved. The inflammatory condition involving a mixed nerve is the one most often confused with other diseases and this is particularly true when the neuritis is a multiple one. Neuritis may be either acute or chronic. Acute forms of neuritis, as a direct result of infection, are rare. When they are discovered, they take on a form of acute infectious multiple neuritis with sudden onset, a rise of temperature, rapid progression of symptoms, so that death may occur in from a few days to a few weeks. The onset is similar to any other form of polyneuritis in which there are sensory disturbances of hypesthesia, pain and the motor disturbance of weakness. This type of polyneuritis may extend into the anterior horn cells and progress upward in the cord along the anterior columns and resemble Landry's paralysis or acute ascending myelitis. This is a very rare and fatal form of neuritis.

Neuritis of a mixed peripheral nerve is the most common variety. The symptom complex is usually alike in all cases. It is impossible to have a true neuritis of a mixed nerve unless there is pain, skin sensory disturbances, muscle weakness, an absence or diminution of deep reflexes, muscle wasting or atrophy later in the disease and excruciating pain on stretching the nerve. Sciatica is a common example of this type of neuritis. When a purely motor nerve is inflamed there is to be expected diminution of deep reflexes, muscle weakness or paralysis and atrophy also if the condition persists sufficiently long. Bell's palsy and musculospiral nerve palsy are examples. When a sensory nerve is involved, pain and skin sensory disturbances are the outstanding symp-

toms. Trifacial neuralgia, which is really an inflammation of the ganglion of the fifth nerve, is an example of this type. In radiculitis which is an inflammation of the nerve root and ganglion there is often, in addition to excruciating pain and other sensory disturbances, a vesicular eruption in the form of herpes zoster along the nerve terminals.

Polyneuritis is probably the most frequent type of the disease with which the neurologist comes in contact. We have found the majority of these cases to be due to chronic alcoholism. There is usually a history of over-indulgence in alcohol during a long period of time. Precipitating factors which may usher in the disease may be an acute infection or some nutritional disturbance. The patient may have prodromal symptoms for several days or weeks before the disease becomes incapacitating. These symptoms are usually numbness, slight pains and muscle weakness. Occasionally fever is present and there is often some tenderness along the nerve trunks and in the muscles. The condition usually begins in the lower extremities and later extends to the upper ones. The skin is occasionally red, glossy and edematous. As the disease progresses, muscle wasting is observed. The knee jerks gradually diminish and are finally lost. Paraplegia is noted, wrist drop, foot drop, or both may be present. Skin anesthesia becomes patchy and during the disease there is often a muttering delirium with confusion, mild disorientation, delusions and the condition sometimes takes on the mental factors of Korsakoff's syndrome. In the diphtheritic form of multiple neuritis, there is usually some involvement of the eye and heart muscles and the motor symptoms predominate; the sensory symptoms are few. The neuritis of beriberi is simply a toxic condition in which the pain is excruciating, vaso-motor symptoms are present and the weakness is marked. Malarial neuritis is rare. Lethargic encephalitis, which is sometimes accompanied by multiple neuritis, has been mentioned and is much more common than is suspected.

The disease which has to be most often differentiated from multiple neuritis is myelitis including its various forms. Poliomyelitis in children is easily confused. Some of the differential points between these two diseases are that the symptoms usually come on more slowly in neuritis. The sensory symptoms predomi-

nate and there is seldom a gastrointestinal upset as is always found in infantile paralysis. As the neuritis progresses it usually skips the hips and trunk, jumping to the arms. In poliomyelitis, the maximum paralysis is observed in the first three to five days of the disease, following which the symptoms tend to improve, whereas in multiple neuritis the disease gets progressively worse for a period of weeks. In transverse myelitis, the progress of the disease is more rapid. Anesthesia is more extensive and usually there is some sphincter involvement. Bed sores are not infrequently present in myelitis. Myositis, serositis and arthritis are frequently confused with neuritis, but by careful study, frequent physical examinations and the use of the X-ray, they can usually be differentiated.

It is not infrequent to see the residuals of an extensive multiple neuritis last for years or throughout life. True neuritis, even though confined to one nerve or a part of a nerve plexus, is usually from several weeks' to several months' duration. In an extensive multiple neuritis, the duration of the disease is usually from six months to a year or more. Death seldom occurs from the disease except in very acute forms, in which the condition rapidly extends up the anterior horn cells.

The first principle in the treatment of neuritis is complete rest of the part affected. Rest is essential and the more complete the rest is until the sensory disturbances of pain and tenderness have subsided, the more quickly will be the recovery and the fewer residual symptoms will remain. In sciatica it is often necessary to use a splint to be sure the nerve will be kept at rest. Splints for the arm in brachial neuritis are helpful. Slings, which will enable the arm to be kept at rest, are also beneficial in brachial neuritis. In wrist drop and foot drop, splints and partial casts are used to good effect. Aside from removing the cause of the neuritis, if it can be determined, heat is probably the next most important adjunct in treatment. Heat should be applied in any form, but dry heat is preferable. The various baking machines, no one of which is probably any better than the other, are beneficial. Hot water bottles to the affected parts, hot electric pads, in fact any kind of heat which can be given is soothing to the pains of the patient and it is helpful in combating the inflammatory process. Various forms of

electricity are also thought to be helpful. It is certain that the high frequency vacuum electrode helps the pain. Galvanism and faradism have been used for many years and there are many who claim they are very beneficial in shortening the duration of the disease and relieving the pain. We have found that diathermy is most helpful in controlling the pain in neuritis. We are unable to say and unwilling to claim that diathermy has any effect on the course of the disease, but in our own minds and in the minds of most patients on whom it has been used we are certain of its good analgesic effect. Salicylates, allonal and other analgesics are used. It is seldom necessary to use opiates. At times they will have to be resorted to, but they should be used with great caution; because of the probable necessity of their use over a long period of time the danger of addiction is feared. Elimination is absolutely necessary and this should be obtained by hot packs, sweat baths and other forms of hydrotherapy, together with elimination by the bowels and the kidneys. Massage and exercise should not be resorted to when there is pain or tenderness.

Exceptions may be made when the disease has been present for several months and there is only some residue of slight pain. If this be true, massage and exercise are indicated and are at this phase of the disease at times helpful. Injections into the nerve sheath have been recommended by many excellent authorities. In certain very stubborn cases of sciatica the procedure is recommended but it should not be used indiscriminately in untrained hands. Codein, novocain, alcohol and urea hydrochlorid are used.

Medical Arts Building.

STENOSIS OF THE PYLORUS WITH SPASM AND HYPERTROPHY IN ADULTS: SURGICAL ASPECTS.*

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The cases of three patients that were seen recently at the University of Virginia Hospital brought to my attention a syndrome which seems to constitute a rather definite clinical entity. Because the clinician seldom considers

it, however, this brief report is made. The condition is characterized by hypertonicity and hypertrophy of the pylorus with narrowing of its lumen. The roentgenologic findings in such cases will be reported in detail elsewhere by Archer.

CASE No. 1. C. D. The patient, a white man aged 63 years, entered the hospital January 5, 1926. Except that his father died of "cancer of the liver," the family and past history was negative. The chief complaint was soreness in the epigastrium which had been noticed first five months previously. There had been almost constant discomfort without apparent relationship to the taking of food. Nausea and vomiting had occurred several times but no blood had been noticed in the vomitus or the stools. He had lost 25 pounds in weight.

Examination revealed moderate tenderness and rigidity of the upper part of the right rectus muscle. Gastric analysis showed no free hydrochloric acid, but blood, lactic acid and Oppler-Boas bacilli were present. Roentgenologic examination of the stomach revealed a constant but regular narrowing of the pylorus which seemed to be about one inch in width.

With the pre-operative diagnosis of early carcinoma of the stomach, the abdomen was explored by Dr. S. H. Watts. An elastic mass about 3 cm. in diameter was found in the region of the pylorus. It consisted of a greatly hypertrophied and very spastic pyloric ring. It was not carcinoma. The pylorus was incised longitudinally and closed transversely, thereby increasing the size of its lumen. Post-operative convalescence was uneventful and a letter received from his physician more than three years later stated that the patient was in good health, free from discomfort and had regained his normal weight soon after returning home.

CASE No. 2. C. T. The patient, a colored man aged 42 years, was admitted to the hospital March 19, 1928. His family history was negative. He had been operated upon in 1916 for hemorrhoids and in 1922 for chronic appendicitis. The chief complaint was soreness and discomfort in the upper abdomen of six months' duration. Continuous soreness in the epigastrium without relation to the ingestion of food had been present, accompanied intermittently by a vague discomfort without actual pain. No nausea, vomiting, hematemesis or melena had occurred. Examination revealed moderate tenderness and some resistance to

*Abridgement of paper read before the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929, and published in full in *The Archives of Surgery* (In Press).

palpation in the epigastrium. Gastric analysis showed hyperacidity of moderate degree. Roentgenologic examination of the stomach revealed a tube-like, spastic pylorus, with constant spasm of the pre-pyloric portion of the stomach. "Probable small gastric ulcer" was reported.

At operation the gall-bladder, stomach and duodenum were normal in appearance and by palpation. Inspection of the mucosa of the stomach and upper part of the duodenum through an incision in the stomach revealed no ulceration. The pyloric ring, however, was definitely thick and spastic. It was dilated manually from within.

Post-operative convalescence was uneventful and the patient left the hospital after two weeks. He was entirely relieved for a period of four or five months at the end of which time the discomfort returned. Re-examination of the stomach roentgenologically showed again narrowing of the pylorus. Small frequent meals were prescribed and apparently have relieved the patient for the present.

CASE No. 3. A. L. J. The patient, an unmarried white woman aged 39 years, was admitted to the hospital April 17, 1928. The family history was negative. She had never been able to eat very large meals because her stomach had seemed to fill quickly. Her chief complaint was periodic attacks of pain in the epigastrium of fifteen months' duration. The pain had occurred soon after meals and there had been food and soda ease. Three weeks prior to the time of her admission the symptoms had become more severe and vomiting had occurred frequently. For six days she had not been able to retain any food. No blood had been seen in the stools or vomitus. She had lost thirty pounds in weight.

Examination revealed undernourishment. There was tenderness and some muscle spasm in the epigastrium and upper right quadrant of the abdomen. Roentgenologic study of the stomach revealed a tube-like and very spastic pylorus with a constant deformity of the lesser curvature just proximal to the pylorus. Six hours later there was a residuum in the stomach estimated at 25 per cent. Gastric ulcer was suspected.

Operation revealed a very spastic and definitely thickened pylorus. The stomach, gall-bladder, duodenum and appendix were normal. The anterior two-thirds of the pyloric ring and some of the contiguous stomach and duo-

denum were excised. Inspection of the mucosa of the stomach and duodenum did not reveal any evidence of ulceration. The opening was closed transversely, thereby leaving a funnel shaped communication between the stomach and duodenum.

The post-operative course was entirely uneventful and the patient was discharged after two weeks. More than a year later she reported that her health was excellent and that she had gained thirty pounds in weight.

DISCUSSION

Few references to similar cases could be found in the literature. Maier, Maylard, Mayo-Robson and Moynihan, Bastianelli, Bianchetti, Crohn, Chaney and Martin and Burden reported a few cases.

The pathogenesis of the condition is an interesting subject for conjecture. Congenital malformations and disturbances in the intrinsic or extrinsic mechanisms which control the action of the pylorus must be considered. The etiology of the individual case, however, is difficult to decide.

The diagnosis would be less frequently missed if the condition were considered oftener when examining patients complaining of vague or atypical symptoms in the upper part of the abdomen. The final diagnosis must be made roentgenologically. Constant spasm of the pylorus with more or less lengthening and narrowing of the lumen of the pylorus is presumptive evidence and when accompanied by signs of gastric stasis or retention is conclusive evidence of pyloric stenosis. It seems probable that in the past many of these cases have been diagnosed "pylorospasm" and dismissed as neurasthenics.

The treatment of such cases must depend on the severity of the syndrome and the degree of discomfort and incapacity suffered by the patient. Antispasmodics and small meals taken frequently may suffice in the mildest cases. In the more severe cases surgical treatment seems indicated.

The operative procedure employed should aim to reconstruct the pylorus in such a way as to enlarge its lumen. In one of my cases and in one reported by Mayo-Robson and Moynihan the pylorus was dilated manually. Only temporary relief followed. In the other cases permanent relief ensued when the lumen of the pylorus was enlarged operatively.

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7. Maylard, A. E.: Congenital Narrowness of the Pyloric Orifice a Cause of Chronic Gastric Disease in the Adult. *Brit. Med. Jour.*, 1904, I, 416-419.
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9. Mayo-Robson, A. W., and Moynihan, B. G. A.: Diseases of the Stomach and Their Surgical Treatment. New York, Wm. Wood and Co., 1904, 522 pp.

DISCUSSION.

DR. V. W. ARCHER, University: Dr. Morton and I have been very much interested in this type of case. We worked this subject up together, and Dr. Morton has covered all of the clinical features of this disease entity. I shall touch very briefly upon the roentgenological aspects of this condition as we now see it.

First of all, there is a contraction of the pylorus and a widening of the pyloric ring. Instead of a narrow pyloric ring in these cases there is a wide one; the pyloric ring, as in the first case presented, may be an inch in width. In addition to the widening of the pyloric ring and recurrent pylorospasm, there is evidence of hypermotility in the stomach, the stomach evidently working against pressure. When we get a case like this we must differentiate from carcinoma, and this cannot be done from the X-ray examination alone; there must be direct inspection. There is no way of determining by X-ray whether we are dealing with pyloric thickening due to malignancy or due to hypertrophic stenosis. In young persons it is easier, because we do not frequently encounter carcinoma. In other cases we must differentiate between simple pylorospasm and a genuine hypertrophy of the muscle. Only by repeated examinations under antispasmodics can you tell whether this is simple spasm or hypertrophy of the muscle; there is no other way of differentiation. Of course, there are gradations running from simple pylorospasm up to extreme degrees, where there is widening of an inch or more.

It is important to differentiate between pylorospasm, gastric ulcer, and carcinoma. I made a mistake in two of these cases, thinking there was a small gastric ulcer probably in the pyloric ring, causing spasm. Since then, on talking with Dr. Alexander Moore, of the Mayo Clinic, I have come to believe that this pylorospasm is more frequent than we have thought and is a definite clinical entity frequently mistaken for pyloric ring ulcer. I

examined one case five years ago and again recently, and the patient showed exactly the same findings at the end of the five-year period. Repeated examination, with the finding of a widened pyloric ring, makes the diagnosis certain in advanced cases. In the mild cases we cannot be at all certain, as there may be very little increase in the width of the pylorus and no gastric retention.

Correspondence

Conservation of Vision.

RICHMOND, VA.,
MARCH 28, 1930.

TO VIRGINIA DOCTORS:

The Virginia Commission for the Blind has as one of its major policies, the conservation of vision and the prevention of blindness.

During the past year we have been conducting eye clinics in several of the counties and cities of the State, with the cooperation and assistance of some of the leading eye specialists of the Commonwealth. These clinics have brought untold benefit to a large number of school children and also a great many adults have been benefited as well. It is our hope and purpose to continue to hold these clinics as rapidly as possible in all of the counties and cities of the State.

We desire to take this opportunity of extending our sincere thanks and appreciation to the eye specialists who have so wholeheartedly given of their services in the holding of these eye clinics.

In addition to holding eye clinics and making such corrections in eye defects as possible, we go further and establish sight saving classes in the public schools. At the present time we have three such classes in the city of Richmond and one each in the cities of Norfolk and Roanoke. There should, in our opinion, be at least one hundred such classes in the State.

A large percentage of blindness can be prevented and with the continued cooperation and wholehearted assistance of the medical profession, we will do this. The prevention of blindness and the conservation of vision is humane and economical, both to the individual and to the State.

We appreciate what the medical profession has done for us in the past and look forward to greater accomplishments in the future.

VIRGINIA COMMISSION FOR THE BLIND,

By L. L. WATTS, *Executive Secretary.*

President's Message

On another page of this number of the VIRGINIA MEDICAL MONTHLY you will find the programs of the coming meetings of Component Societies of the Medical Society of Virginia. Along with these comes an invitation to all members of the Medical Society of Virginia to take advantage of these meetings, to learn to know the members of these societies better, and cooperate with them in helping increase the knowledge and prestige of the Medical Profession.

I feel that we have in the programs of our local societies one of the most valuable aids for the clinical education of our Profession, although they are independent of our Department of Clinical Education. We have not, however, been able to take advantage of these programs in the past, because they have only been known to the members of the local societies, and even then have often been published so late that it was impossible to give them proper circulation. The VIRGINIA MEDICAL MONTHLY offers this service in giving the necessary publicity to these local programs and only asks that they be sent to our society office in time for publication.

The VIRGINIA MEDICAL MONTHLY belongs to the Medical Profession of Virginia. It is not only run in order to furnish help to the Medical Society of Virginia, but to aid the local societies and each individual member of the state society. We especially desire the secretaries of the local societies to feel that it is their journal and to send the Secretary of the Medical Society of Virginia all news items and all programs which would be of interest to the profession of the state, as a state medical journal should not only contain scientific papers but should also be a professional newspaper giving each of us news items about our friends in other parts of the state. We ought to have reports of what the local societies are doing, as well as suggestions in regard to improving the status of the Profession. To get this accomplished I feel that it is necessary to get the secretaries of all the medical societies in Virginia closer together, and we hope to have a Luncheon Meeting of the secretaries at the time of the Norfolk meeting of the state so-

ciety. At this meeting we should be able to formulate plans which should be of permanent service in improving the MEDICAL MONTHLY, and making it the most valuable periodical that members of the Profession of Virginia receive.

There has been criticism made, from various sections of the state, that the Medical Society of Virginia is only run for the benefit of the city physicians, especially those living in Richmond and Norfolk. If this were ever the policy of our Medical Society, it has now been entirely reversed, and every effort is being made to extend the privileges of the city doctors to all those living in the country. It is sincerely hoped that the country doctors will take advantage of whatever privileges are offered them, for the city doctors are now extending the hand of good-fellowship to their country brethren, as well as to their brethren living in other cities. For the good of the Profession as a whole may we all cooperate in thus bringing about a feeling of true accord and harmony.

MEDICAL LEGISLATION IN 1930

In the VIRGINIA MEDICAL MONTHLY for December I stated that the Medical Society of Virginia had no special legislation to request, but merely asked that the Medical Practice Act be not disturbed. In the same article, I personally suggested that it would be a good thing for the individual medical men to support the plans of the State Health Department, which was trying to get extra support for Advanced Cases of Tuberculosis.

I am now happy to be able to report that I have received a message from Dr. Kendig that there was no legislation introduced which affected the Medical Profession. I also can report that the Legislature appropriated \$50,000.00 a year to be used by the State Department of Health in the fight against Tuberculosis. We can all feel highly gratified at the accomplishment of both of our desires in regard to legislation.

CHARLES R. GRANDY, M. D.,
President, Medical Society of Virginia.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Extension Work in Graduate Education.

The Clinical and Educational work, conducted conjointly by this Department with different local county and group societies during the past month has been instructive and interesting.

Most of the "blue print" work of preparatory organization for the succeeding Spring and Summer meetings has been finished, and the success of these meetings depends only upon the support and guidance of the local members of the cooperating county societies.

The programs so far staged, have been varied and different at each meeting, and have been made to conform largely to local conditions and existing necessities.

The aim has been to make the different methods employed as practical and scientific as possible, bringing each subject discussed or exemplified by clinic, or other means, entirely up-to-date, in a conferential, more than in a didactic way. This has been apparently received in a most gratifying manner, one of the invited guest-speakers at the recent Central State Hospital meeting, sponsored by the Southside Medical Society of Virginia, remarking that more physicians remained in the hall during the discussions, than at any meeting at the late annual session of the general Society.

As far as possible in the future, special clinics at each meeting will be held by the local and visiting physicians demonstrating the modern and approved scientific advances in Medicine, Surgery, Obstetrics, Children's Diseases and Public Health, and whenever possible, new methods and demonstrations of diagnosis, together with diagnostic aids, will be presented and discussed by clinical specialists of this and other states.

Most of these methods are now being used in the meetings scheduled, and once again, the profession is invited by this Department to aid individually in this extension graduate work.

If you, or your local Society, should desire that this Department aid you or your community in holding such a professional cooperative local meeting, advise the Acting Executive Secretary. Besides being a professional matter, in which your State Society is greatly in-

terested, it is also a very personal duty—no one will act for you.

SCHEDULED CLINICAL MEETINGS

—On April 22nd, beginning at 2:00 P. M., the Richmond Academy of Medicine, composed of the counties of Henrico and Chesterfield, in cooperation with the Department of Clinical Education, will hold a Post-Graduate clinic for doctors in Virginia during the afternoon and evening. Dr. W. H. Higgins is president and Dr. R. Finley Gayle chairman of the committee on program.

Several short clinics at which the cases will be demonstrated at the Memorial Hospital and St. Philip's Hospital, will be shown in the afternoon. There will also be practical demonstrations of the newer methods of diagnosis, such as the actual use of the Electro-Cardiogram and the Basal Metabolism determination.

In the evening, the guest speakers will be Dr. O. H. Perry Pepper, Professor of Medicine at the University of Pennsylvania and Dr. H. L. Amoss, who is the new Professor of Medicine at Duke University. The program more in detail will be given later, but the above announcement will be a sufficient guarantee of the clinical and educational opportunities that will be offered, and to which all practitioners are cordially invited. As this is the first time that the Richmond Academy of Medicine has offered such a clinic program, it is hoped that there will be a large attendance.

—On April 26th, the Clinch Valley Medical Society, composed of representatives from seven county societies in the extreme Southwestern part of the State, will meet at Richlands in the Mattie Williams Hospital. Dr. W. R. Williams, who has charge of this hospital, is chairman of the local committee of arrangements, and Dr. C. B. Bowyer has charge of the program. At his request, this Department has assisted in securing, in addition to the local essayists, the following clinicians and lecturers, each of whom will be allotted a one-hour period—Dr. Stuart McGuire, Surgery; Dr. J. C. Flippin, Medicine; Dr. Benj. H. Gray, Obstetrics; Dr. Lawrence T.

Royster, Children's Diseases; and Dr. Ennion G. Williams, Public Health.

In addition, Dr. Charles R. Grandy, President, will represent the State Society, and Dr. Manfred Call will attend the sessions as an Observer for this Department, and will endeavor to ascertain from the members present, their wishes as to the kind of clinical information desired by them, and will also discuss certain phases of Medical Education.

This Society is a banner one, certainly as to the attendance, for at its meeting last Fall the entire membership of fifty-seven practitioners was present.

With such a program as will be presented at this meeting, it is confidently believed that not only the regular members, but many physicians from adjoining sections will be present.

This Department acting with the Society, will send letters of invitation to all members of the profession in adjacent sections of Virginia and Kentucky.

This professional feast promises to be too good not to be shared with all the physicians in that section of the State.

—On April 15th, at 7 P. M., the Mecklenburg County Medical Society, with Dr. C. V. Montgomery, President, will hold, conjointly with this Department, a meeting at South Hill.

Dr. W. W. Wilkinson, LaCrosse, is Chairman of the Committee on Program, and as soon as all arrangements are completed, notice will be given by the Society and the Department of Clinical Education to all physicians in the adjacent territory.

At this meeting, in addition to the usual program, it is planned to give Obstetric demonstrations, and also methods employed in the examination of the pre-school child. A symposium on Diabetes and Pellagra, with demonstrative cases, will also be held.

This Society has a most enviable reputation for advanced cooperative effort in professional matters, and the coming occasion is looked forward to with interest and enthusiasm and the detailed program will be published later.

ADDITIONAL MEETINGS

Programs of the following societies for meetings in April and May have been received, with the statement that all doctors will be welcome to attend:

ALBEMARLE COUNTY MEDICAL SOCIETY—President, Dr. D. C. Smith, University; Secretary, Dr. A. D. Hart,

Charlottesville. Program submitted was for first Thursday in April.

ALEXANDRIA MEDICAL SOCIETY—President, Dr. R. L. Wilkins, Alexandria; Secretary, Dr. Peter B. Pulman: Tuesday, May 6th, paper on "Modern Conception of Heart Disease," with X-ray films and specimens, by Dr. Wallace M. Yater, Professor of Clinical Medicine, Georgetown University, Washington, D. C. Meetings held at George Mason Hotel, Alexandria. Papers presented at 9 P. M. LYNCHBURG & CAMPBELL COUNTY MEDICAL SOCIETY—President, Dr. Robt. P. Kelly, Lynchburg; Secretary, Dr. Chas. P. M. Sheffey, Lynchburg: Monday, May 5th, paper on "The Infant Mortality Rate in Lynchburg," by Dr. Mosby G. Perrow, of the Lynchburg Health Department. Meeting will be held at the Virginian Hotel following dinner, at 7 P. M.

RICHMOND ACADEMY OF MEDICINE—President, Dr. Wm. H. Higgins; Secretary, Dr. Mark W. Peyser: Tuesday, April 22nd, given above.

May 13th, papers by Dr. Karl Blackwell, Richmond, and Colonel Wm. L. Keller, of Walter Reed General Hospital, at Washington, D. C.

ROCKINGHAM COUNTY MEDICAL SOCIETY—President, Dr. Noland M. Canter, Harrisonburg; Secretary, Dr. J. Chas Harshbarger, Harrisonburg: Monday, April 14th, paper on "Stone in the G. U. Tract: Etiology, Treatment and Prevention of Recurrence," by Dr. Linwood D. Keyser, Roanoke.

Monday, May 12th, paper on "Carcinoma of the Breast," by Dr. Hugh H. Trout, Roanoke.

RECENT CLINICAL MEETINGS

—On March 11th, at the Central State Hospital, Petersburg, the first open Clinical meeting in a State Institution for the entire profession, was held under the auspices of the Southside Virginia Medical Association and this Department.

This meeting was eminently successful in every aspect.

The clinics included medical, surgical and psychiatric cases, and five scientific papers on Syphilis and Sterilization.

This meeting notably justified the wisdom of utilizing for the benefit of the profession the great amount and variety of clinical material in this and similar institutions in the State, which have now been opened to the general profession for scientific study and clinical use.

The future will amply demonstrate the value of these privileges for the benefit and instruction of the profession. Especially also, this innovation will give to future medical students a better and saner appreciation of disease, and that patients must be considered not only as physical machines, but as human mechanisms with thinking spirits and feeling souls, and that these mental cripples have also every physical disease-condition that affects human kind. The large numbers of patients, likewise, will afford the interested student

special advantages for scientific study and classification of different diseases.

In the course of a recent letter to this Department, Dr. Hall, apropos this subject, says: . . . "My present hope about mental disease and the medical profession is exceedingly simple—it is that doctors may be able to think of mental disorders as belonging within the domain of legitimate medicine. We are exceedingly prone still at this time to look upon the patients exhibited at psychiatric clinics as vaudeville performers, but if we continue to hold such mental clinics as were studied at the meeting of the Central State Hospital, after a while I hope doctors will begin to think of the strange behavior of mental patients simply as one of the manifestations of disease.

I shall be on the lookout for your message in the Journal. I know that it is unnecessary for me to assure you that you can call upon me, indeed that you can order me, to do anything that you think I am competent to undertake."

A resumé of some of the "contacts" established at this meeting will be found elsewhere in this issue, as well as a detailed report by Dr. W. F. Drewry.

—On March 31st, the Norfolk County Medical Society held a joint clinical and educational meeting in Norfolk in cooperation with this Department.

The program was as follows:

NORFOLK PROTESTANT HOSPITAL

Dr. F. C. Rinker—Medical Clinic,	10:00 to 10:35 A. M.
Dr. Lomax Gwathmey—Surgical Clinic,	10:35 to 11:10 A. M.
Dr. W. B. Newcomb—Pathological Clinic,	11:10 to 11:45 A. M.
Dr. W. P. McDowell—Pediatric Clinic,	11:45 to 12:20 P. M.
Dr. C. J. Andrews—Ob. and Gynec. Clinic,	12:20 to 12:55 P. M.
Complimentary Luncheon— Norfolk Protestant Hospital	1:00 to 2:00 P. M.

HOSPITAL ST. VINCENT DE PAUL

Dr. R. L. Payne—Surgical Clinic	2:00 to 2:35 P. M.
Dr. Clayton Eley—X-ray Clinic,	2:35 to 3:10 P. M.
Dr. W. B. Martin—Medical Clinic,	3:10 to 3:45 P. M.
Dr. James Anderson—Dermatology,	3:45 to 4:20 P. M.
Dr. B. E. Harrell—Urology,	4:20 to 4:55 P. M.
Complimentary Dinner,	6:00 P. M.
Dr. Chevalier Jackson,	8:00 P. M.

Bronchoscopy as an Aid in the Diagnosis and Treatment of Diseases of the Lung.

Chalk Talk, Lantern Slide and Moving Picture Demonstration.

The wide range and diversity of the sub-

jects considered in these clinics, together with the presence of Dr. Chevalier Jackson as special guest-clinician, made this an outstanding clinical occasion, and a more extended notice will be given in a succeeding issue.

On going to press, we hear that more than eighty out-of-town physicians were present, and at the night clinics three hundred or more were in attendance. As usual in all matters professional, Norfolk even excelled herself and can lay claim also to priority in having made announcements early last October for this clinic.

MATERNAL WELFARE

The following letter from the Chairman of the Maternal Welfare Committee of the State Society has been received, and it will be a pleasure, as it is the duty, of this Department, to conform its activities in this respect in accordance with this request, and as has been done already to some extent.

Dr. Greer Baughman, Chairman, writes as follows:

. . . "At the meeting of the Maternal Welfare Committee on March 9th in the office of the chairman, 26 North Laurel Street, Richmond, a resolution was passed asking the Department of Clinical Education of the Medical Society of Virginia to make a point of having obstetrical demonstrations a part of all post-graduate clinics held in the State, as it finds throughout the State a great need of obstetrical care. There is also much need of prenatal instruction for all pregnant women, and the committee is making every effort to have such instruction given through public health nurses, literature sent out by the State Department of Health and the Correspondence Course for Mothers, with the ultimate aim of getting all pregnant women under the care of their physicians.

Many practicing physicians are feeling the need for obstetrical instruction, and the committee is taking this means of helping to fill the need. We believe that if the Department of Clinical Education will put on obstetrical demonstrations at their clinics they will find that they are doing much to help the physicians as well as the women of the State."

ENCOURAGING

The Chairman of the Committee on Medical Education and Hospitals in a recent letter says:

. . . "I am particularly pleased to note the momentum which the clinical educational work is gaining, and especially to note that the clinics at the Central State Hospitals were so successful.

I am pleased to note also that by degrees it is working out that the local clinics are depending more and more upon the Department of Clinical Education in helping to arrange the programs, etc., and trust that it will, a little later on, work out that they may be advertised in the Journal as an integral part of the general plan, and may be scattered at strategic points over the State so that the men in different sections may look forward to clinics within reach of them and will depend more and more upon the central organizations, and that the Journal may advertise a month or two in advance where the next program may be held."

INFORMATION

All members of the State Society are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education either to the Acting Executive Secretary, Mr. George W. Eutzler, P. O. Box 707, University, Va., or to the Chairman of the Department of Clinical Education, 5 East Franklin Street, Richmond, Va.

Woman's Auxiliary, to the Medical Society of Va.

Mrs. Edwin J. Nixon.

It is with deep regret that we announce the death of our President-Elect, Mrs. Edwin J. Nixon.

MRS. F. W. UPSHUR, *President.*

At the request of the State President, the following resolutions have been adopted on Mrs. Nixon's death:

We, the Committee of the Virginia State Medical Auxiliary, present the following resolutions:

WHEREAS, In the death of Mrs. E. J. Nixon, we mourn the loss of a valued friend and co-worker; and

WHEREAS, We appreciate the work of Mrs. Nixon as President-elect of the Virginia State Medical Auxiliary and Past-President of the local Auxiliary and active in the work of Virginia Department of the

American Legion Auxiliary and United Daughters of the Confederacy. She gave freely of her time and strength to the service of her fellow man, especially in Child Welfare Work and Red Cross.

RESOLVED (1): That we hereby express our sincere sorrow in the loss of so efficient a worker and so valued a citizen.

(2) That we hereby extend to the bereaved family our deepest sympathy in their great sorrow and pray that they may have the consolation of the Divine Comforter.

(3) That a copy of these resolutions be sent to the family and that they be published in the "Progress-Index" and "VIRGINIA MEDICAL MONTHLY," and be incorporated in the minutes of state and local Auxiliary.

Signed:

MRS. MEADE EDMUNDS,
MRS. J. B. JONES,
MRS. W. B. MCILWAINE,
MRS. C. T. JONES.

The Woman's Auxiliary to the Norfolk County Medical Society

Entertained at luncheon at the Colonial House, the middle of March, to which were invited the Advisory Committee of the Norfolk County Medical Society. The members of this committee are Dr. William P. McDowell, Dr. Charles Andrews and Dr. Albert Wilson. Mrs. William P. McDowell is president of the auxiliary, and the entertainment committee included Mrs. Frank H. Redwood and Mrs. Claiborne Willcox, chairmen; Mrs. Robert Matthews, Mrs. George A. Renn, Mrs. Arthur Porter, Mrs. Lydon Harrell, Mrs. M. S. Fitchett, Mrs. R. L. McMurran, Mrs. J. D. Collins, Mrs. Hugh Parrish and Mrs. T. L. Chapman, Mrs. I. Chapman, Mrs. Southgate Leigh, Mrs. R. U. Burges, Mrs. Fred Rinker, Mrs. R. Pearson, Mrs. M. N. King.

Those who attended the luncheon were: Mrs. W. P. McDowell, Mrs. H. L. Collier, Mrs. Rufus Kight, Mrs. J. L. Rawls, Mrs. Robert L. Payne, Jr., Mrs. Frank H. Redwood, Mrs. Arthur W. Porter, Mrs. Tilden Smith, Mrs. C. A. Saunders, Mrs. Benjamin A. Doggett, Mrs. George A. Renn, Mrs. Louis Berlin, Mrs. R. U. Burges, Mrs. L. Mendelsohn, Mrs. B. E. Harrell, Mrs. R. W. Sturgis, Miss Harriett Hunter, Mrs. S. A. Sutton, Mrs. J. W. Reed, Mrs. J. W. Anderson, Mrs. James Erwin Diehl, Mrs. Virginia Keel, Mrs. Elmore Jones, Mrs. J. Sidney Tabor, Mrs. E. M. Gayle, Mrs. R. L. McMurran, Mrs. Joseph D. Collins, Mrs. George Carr, Mrs. Albert E. Wilson, Mrs. Lomax Gwathmey, Mrs. M. H. Hood, Mrs. Clayton Eley, Mrs. M. N. King, Mrs. Southgate Leigh, Mrs. Franklin Wilson, Mrs. C. Lydon Harrell, Mrs. A. M. Saunders, Mrs. J. Warren White, Mrs. George T. Myers, Mrs. Lockburn

Scott, Mrs. A. G. Hawkins, Mrs. J. T. Riordan, Mrs. Frank E. Sellers, Mrs. S. L. Christian, Mrs. Richard H. Peake, and Mrs. Frank Smart.
Woman's Auxiliary to the Richmond Academy of Medicine.

At a recent meeting of this Auxiliary, the following officers were elected for a term of two years: Chairman, Mrs. N. Thos. Ennett; vice-chairman, Mrs. Armistead Gills; corresponding secretary, Mrs. W. T. Sanger; recording secretary, Mrs. W. Sanford Beazley; treasurer, Mrs. J. W. Hannabass.

This Auxiliary in the near future will put on a city wide campaign for "*Hygeia*," their goal being *Hygeia* in every doctor's reception room, every school, club and library in the city.

The Truth About Medicine

In addition to the articles enumerated in our letter of January 24, the following have been accepted: United States Standard Products Co.

Diphtheria Toxin-Antitoxin Mixture 0.1 L+ (Non-Sensitizing) Prepared from Sheep Serum.

The following articles have been exempted and included with the List of Exempted Medicinal Articles (New and Non-Official Remedies, 1929, p. 481):

Robert McNeil

Tincture Digitalis Duo-Test—McNeil.

Black Capsules Digitalis Duo-Test—McNeil.

NEW AND NON-OFFICIAL REMEDIES

Mead's Viosterol in Oil 100 D—A brand of viosterol in oil 100 D, N. N. R. (Jour. A. M. A., August 31, 1929, p. 693). Mead Johnson & Co., Evansville, Ind.

Lenigallol-Zinc Ointment.—It contains lenigallol (Jour. A. M. A., April 6, 1929, p. 1181) 6 per cent in a base composed of zinc oxide ointment—U. S. P. E. Bilhuber, Inc., New York.

Typho-Serobacterin-Mulford (Sensitized Typhoid Vaccine) (New and Non-Official Remedies, 1929, p. 384).—This product is also marketed in packages of three syringes, being three immunizing doses. H. K. Mulford Co., Philadelphia. (Jour. A. M. A., February 1, 1930, p. 339.)

PROPAGANDA FOR REFORM

New Treatments for Cancer.—In a letter Walter B. Coffey and John D. Humber outline their work in connection with an experimental method of treating cancer which involves the injection of extracts of the suprarenal cortex. The work is in the earliest of experimental stages and hardly sufficient on which to base definite claims. The claims of Drs. Coffey and Humber have like those of most investigations, been exaggerated in current reports. (Jour. A. M. A., February 1, 1930, p. 343.)

The Twenty-Fifth Anniversary of the Council on Pharmacy and Chemistry.—At a meeting held February 3, 1905, the Board of Trustees of the American Medical Association created an advisory board to be known as the Council on Pharmacy and Chemistry. The organization of this Council was perfected on February 11, 1905. Thus the Council on Pharmacy and Chemistry passes the twenty-fifth year of its organization and continues, in a second quarter century, one of the most notable works for scientific medicine ever accomplished by any organized group. It is significant that several of the original members

of the body have maintained their connection since its inception and that the secretary, W. A. Puckner, has rendered continuous service as a full-time officer for the body from the first. The Council could not have achieved what it has, without the support of the medical profession of our country. Thus, with the establishment of the Council, the advertising of medicinal preparations in the Journal of the American Medical Association was limited to those products that had been passed by the Council. The same rule has applied to the other publications of the Association, and finally every state medical journal, except those of Illinois and New York, followed this lead. A considerable number of journals not controlled by medical societies also give their support to the Council's work. The medical profession must support the Council or its work will be futile. The members of the Council serve without remuneration and the Journal of the American Medical Association tenders to them the thanks and appreciation of the profession that they have so well served. (Jour. A. M. A., February 8, 1930, p. 413.)

Vitamin D in Tuberculosis.—A recent investigation of the role of vitamin D in the management of tuberculosis indicated that the administration of viosterol did not produce any detectable acceleration of the healing process. These observations suggest that such value as cod liver oil possesses in tuberculosis does not depend on its relatively high concentration of vitamin D. These studies emphasize the fact that cod liver oil possesses more than one claim to nutritive value, for it is even richer in vitamin A than in the antirachitic factor. In spite of the enormous antirachitic potency of viosterol, this material is by no means to be regarded as therapeutically equivalent to cod liver oil. (Jour. A. M. A., February 8, 1930, p. 414.)

The Committee on Foods.—More than a hundred products, representing the products of numerous manufacturers, have been submitted to the committee, in addition to several national advertising campaigns by cooperative marketing organizations. This cooperation is welcomed by the committee but obviously has thrown a great burden of work on the committee at the start. Manufacturers have greeted with acclaim the permission to use on packages and in advertising the seal of the committee. Whereas less food is eaten, so far as concern caloric or energy value, foods have been greatly modified to improve palatability and to provide what are recognized as necessary ingredients in the form of vitamins and mineral salts. It is the hope of the committee that its efforts will give stability to a rapidly growing industry and prevent the sinking of the modern food market in a morass of hokum such as engulfed the drug industry in its developing stages. (Jour. A. M. A., February 8, 1930, p. 415.)

Vigantol Not Accepted.—"Viosterol" is the name adopted by the Council on Pharmacy and Chemistry for irradiated ergosterol, and "viosterol in oil 100 D" for a solution in vegetable oil having one hundred times the antirachitic potency of a standard cod liver oil. All of the firms licensed by the University of Wisconsin Foundation to prepare this preparation have agreed to cooperate with the Council on Pharmacy and Chemistry, by using this name, except the Winthrop Chemical Company. The Winthrop Chemical Company has determined to call its product "Vigantol," notwithstanding the fact that the Council has declared that the application of such a proprietary name is contrary to the best interests of the medical profession and the public. The medical profession must support the Council in this type of work if the Council's efforts are to be effective. (Jour. A. M. A., February 8, 1930, p. 415.)

Antistreptococcus Serum Omitted from N. N. R.—

The Council on Pharmacy and Chemistry reports that for some years it has been questioning the value of antistreptococcus serum preparations. In 1928 the Council decided that unless new and favorable evidence became available, all streptococcus serum preparations would be omitted from New and Non-Official Remedies with the close of 1929. Since no such new evidence has become available, the Council has omitted all antistreptococcus serum preparations. (Jour. A. M. A., February 15, 1930, p. 484.)

The Coffey-Humber Cancer Treatment.—The publicity, given through Hearst newspapers primarily, to the Coffey-Humber cancer treatment has brought about the very type of injury to scientific research that was predicted. Regardless of the fact that Drs. Coffey and Humber have made it clear that their work is purely experimental and that they do not claim to have developed a cancer cure, the great trek of cancer sufferers across the continent has begun and physicians everywhere are besought by their patients to procure this remedy. (Jour. A. M. A., February 22, 1930, p. 562.)

Where is the Bichloride in "Bichloridol"?—R. N. Harger reports that he has confirmed the report of the A. M. A. Chemical Laboratory that Bichloridol capsules do not contain the amount of mercury claimed. The specimens which he examined contained even less than those reported on by the Laboratory. He found that most of the mercury had combined with the container. The A. M. A. Chemical Laboratory reports that letters received by physicians from the Duke Laboratories, who market the Bichloridol capsules, in which the firm claims that the findings of the Laboratory are erroneous. That this claim is untrue is shown by the confirmatory analysis of R. N. Harger and by other reports which have been forwarded to the Laboratory. (Jour. A. M. A., February 22, 1930, p. 579.)

Viosterol or Irradiation.—If rickets is the disorder that is to be cured or averted, both cod liver oil and irradiated ergosterol, the latter now available as viosterol in oil 100 D, act as specifics; so that irradiation with artificial light sources is not essential though its effectiveness to accomplish the same ends deserves emphasis. Viosterol also serves to promote the proper metabolism of calcium and phosphorus in other disorders. On the other hand, irradiation with ultraviolet rays doubtless produces a variety of physiologic effects about which we are still largely uninformed. (Jour. A. M. A., February 22, 1930, p. 580.)

The United States Pharmacopeia.—The United States Pharmacopeia is published by authority of the United States Pharmacopoeial Convention. This body meets once every ten years, and its chief function is the selection of the Committee of Revision of the United States Pharmacopeia. To this committee is assigned the task of issuing the revised edition of the book. The next Pharmacopoeial Convention has been called for May 13, 1930, at which time the delegates appointed by the constituent bodies will meet and inaugurate the preparation of the eleventh revision of the Pharmacopeia. At the time when instruction in medical schools in subjects related to therapy and drugs was woefully deficient, and when conditions made necessary the establishment by the American Medical Association of its Council on Pharmacy and Chemistry, the Pharmacopeia promised to degenerate into a mere book of standards for drug control officers. In 1916, when the ninth revision of the Pharmacopeia made its appearance, it was pointed out that it was a book of standards for drugs but not a book of standard remedies. Largely as a result of the renewed interest in scientific drug therapy which was created by the Council on

Pharmacy and Chemistry, there was so much interest taken in the following revision of the Pharmacopeia that, at the convention held in 1920, the medical members of the revision committee were in effect delegated to decide which of the drugs in the ninth revision were to be retained in the tenth and which were to be omitted as being of insufficient usefulness, and as a result the tenth revision is a book with which physicians and pharmacists may justly be satisfied. In order that the next revision may correctly reflect the advances in drug therapy, the medical and other bodies entitled to send delegates to the coming convention should give serious consideration to the appeal of the Council on Pharmacy and Chemistry that competent delegates be sent to this convention. (Jour. A. M. A., September 28, 1929, p. 990.)

Acriflavine Hydrochloride and Acriflavine Base.—When first used, acriflavine base was called "tryptaflavine" by Ehrlich. In England and in this country, however, the hydrochloride is commonly known as acriflavine, although the free base (which has also the designation "neutral" acriflavine) sometimes goes under the same name. Because the standards for these dyes which had been adopted by the Council on Pharmacy and Chemistry in 1919 had been found inadequate and because some American authors had asserted that the foreign product was superior to the domestic, the American Medical Association Chemical Laboratory undertook an extensive investigation of the composition of the dyes. As a result of the comparison of the various European and American brands of acriflavine hydrochloride and acriflavine base it is concluded that there is not sufficient difference in the purity to justify the statement that the foreign product is superior to the domestic, even though at times the brands differ in appearance. The work of the Laboratory emphasized that a solution of acriflavine hydrochloride is distinctly acid in character. Even a solution of acriflavine base imparted an acid reaction in the range of a pH from 3 to 5. Two years ago, after these investigations were started, the Council on Pharmacy and Chemistry adopted for New and Non-Official Remedies the scientific names acriflavine hydrochloride, for the product generally known as acriflavine, and the scientific name acriflavine base for "neutral" acriflavine, and the completed work of the Laboratory emphasizes the importance of the adoption of these names by physicians in their prescriptions and their publications. (Jour. A. M. A., August 31, 1929, p. 695.)

The Nicotine Content of Tobacco.—About a year ago, the Connecticut Agricultural Experiment Station published a report which showed that the claim that certain tobaccos have been "denicotinized" was largely without foundation, for it was found that there were, among ordinary tobaccos, brands in which the nicotine was either not in excess or was actually lower than that present in the processed tobaccos, sold under the implied claim that they were practically free from nicotine. The Station has now issued a further report giving the results of the analyses of tobaccos of both the processed and unprocessed types. Altogether, eleven brands of unprocessed pipe tobacco have been analyzed and found to have an average total nicotine content of 2.04 per cent; four brands of so-called denicotinized pipe tobacco gave an average total nicotine content of 1.3 per cent; ten brands of ordinary unprocessed cigars gave an average total nicotine content of 1.51 per cent, while seven brands of processed, or so-called denicotinized, cigars gave an average total nicotine content of 0.95 per cent. In the cigarette field forty-

six analyses were made of ordinary unprocessed products, giving an average total nicotine content of 1.77 per cent, as compared with 1.09 as the total nicotine content of twelve so-called denicotinized brands. From this work it can be seen that while some of the so-called denicotinized products contain less nicotine than the ordinary unprocessed brands of the same class; they still contain material quantities of nicotine. The main difficulty in determining whether or not the claims made by manufacturers of so-called denicotinized tobacco products are reasonable lies in the failure to know the amount of nicotine in the various tobaccos *before* they were processed. However, this work permits the tobacco user to arrive at some worth-while conclusions on this point. It should not be forgotten, also, that nicotine is probably not the only harmful element in tobacco smoke, and that Dixon has reached the conclusion that moist tobacco produces much more serious effects than dry tobacco, and has even suggested that the water content of tobacco might be a more harmful factor to the smoker than the nicotine content of the tobacco, and that the condition of the tobacco and the form in which it is smoked are probably more important factors in determining the amount of nicotine that the smoker gets than is the actual nicotine present in the original tobacco. (Jour. A. M. A., September 21, 1929, p. 938.)

Mum—Nonspi—Odorono.—In 1914, Mum was found to contain essentially zinc oxide and benzoic acid in a fatty base. In 1915, it was reported to contain salicylic acid, zinc oxide, glycerin, water, a tallow-like fat and traces of essential oils. Later the A. M. A. Chemical Laboratory found the product to contain 3 per cent benzoic acid and not salicylic acid. According to information available, the base of Nonspi is aluminum chloride dissolved in water containing some potassium and iron. In 1915, Odorono was found by the A. M. A. Chemical Laboratory to contain a 33 per cent solution of hydrous aluminum chloride. (Jour. A. M. A., September 28, 1929, p. 1012.)

Radioactive Waters and Solutions.—Not many years have passed since the Council on Pharmacy and Chemistry, basing its decision on the then available evidence, admitted to New and Nonofficial Remedies various preparations containing in solution radium or radium emanation (radon), and various devices for causing radium emanation to pass into drinking water. The evidence was not extremely well controlled or profuse in amount, but there seemed to be a demand by physicians for such preparations and the Council considered it worth while to set up at least minimum standards of radium content or radium activity. Actually, innumerable preparations were on the market which contained insufficient radium to have any demonstrable effects. Now the Council has issued the following statement: From an examination of the available evidence, it appears that the value of the internal use of radium solutions or of water containing radon in chronic arthritis, gout, neuritis and high blood pressure is not demonstrated by controlled clinical evidence; that in spite of many years of trial, acceptable evidence has not become available and until such evidence does become available the Council has decided not to accept generators for the production of water charged with radon or radium solutions intended for intravenous use. The announcement by the Council disposes of the claims made for all sorts of solutions and for the devices to be used in preparation of such solutions, whether they contain considerable amounts of radium or but insignificant traces. (Jour. A. M. A., September 7, 1929, p. 771.)

Liver Extract No. 343.—The Council publishes a report of the Committee on Pernicious Anemia of the Harvard Medical School. This report states that in May, 1927, the Committee on Pernicious Anemia of the Harvard Medical School was organized to study the properties and to determine the clinical value of the fractions of liver that were being extracted, and to determine in what way a satisfactory product could be made available. Under direction of this Committee, Eli Lilly & Co. offered to manufacture one of the extracts developed. The function of the Committee was merely to supervise the production of a suitable extract of known potency until such time as the medical profession should have become accustomed to its use. The treatment of more than 100 cases of pernicious anemia with this extract indicated that a satisfactory product was available and it was accepted by the Council on Pharmacy and Chemistry for New and Nonofficial Remedies, under the name "Liver Extract No. 343." For the past year Eli Lilly & Co. has regularly produced lots of material every one of which has been shown to be clinically effective in the treatment of pernicious anemia, by a standardized process approved by the committee. The committee now feels that its function of developing a reliable commercial product has been accomplished, and that it may therefore cease actively to supervise the manufacturing process. (Jour. A. M. A., October 12, 1929, p. 1144.)

The Committee on Foods.—The need of some body to express judgment of food products and food advertising, in the same way that the Council on Pharmacy and Chemistry considers medical preparations, has become apparent. The Council has therefore created a special committee on foods. The manufacturers of food products, distributors and all others interested in the promotion of natural food substances or of modified foods, for which claims are made in relation to the promotion of good health, will be asked to submit to the committee the products and the advertising material used in advancing their sale. If a product is found acceptable by the committee, advertisements of it will be permitted in the publications of the American Medical Association, the product will be listed in the book on foods similar to New and Nonofficial Remedies, and the manufacturers will be permitted to use a symbol indicating that the product has been accepted by the committee for listing in the book of foods. If the product cannot reach the standards set forth, a report will be published as is done for drug products, and advertising of the preparation will not be permitted in the publications of the American Medical Association. The work of the Committee on Foods should do much to carry still further the message of good hygiene and of scientific medicine. In beginning this work, the Council on Pharmacy and Chemistry again asks the complete support of the medical profession. Only by the sincere cooperation of the medical profession with the committee can it achieve the prestige necessary to complete attainment of its objects. (Jour. A. M. A., October 12, 1929, p. 1147.)

Potency of Arsphenamine.—There is no official standard for therapeutic potency of arsphenamine preparations. According to reports of the United States Public Health Service Hygienic Laboratory, no one brand has been definitely established as superior to others when considered from the point of view of clinical efficiency. In some foreign countries, every preparation of arsphenamine and neoarsphenamine is tested on mice for therapeutic efficiency before being used. (Jour. A. M. A., November 9, 1929, p. 1495.)

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Editorial

Blood Supply of the Heart.

Practitioners must ever feel a keen interest in any careful presentation of known facts regarding the distribution of the coronary arteries in the heart and in any phase of the subject of the blood supply of the heart. One may find in a recent paper by Whitten* a report of decided value in this connection. Besides the text, the illustrations present work of a high order and quickly emphasize the high quality of the author's treatment of the subject. A word may and should be said also in appreciation of the illustrations displayed. The plates show a clearness of the extreme complications of the distribution of the coronary systems in the heart. Hearts are exhibited that have been prepared by celluloid-corrosion method. The first figure displays the posterior view of the heart from a man, aged forty-two, showing the vascular preponderance of the left ventricle; the second figure shows clearly the left coronary artery and the angulation of the branches as they penetrate the myocardium to the subendocardium; the third figure gives an excellent view of the right coronary arteries, showing straighter-lines-branching and less angular system of branch distribution through the myocardium. One may also carefully note the anatomical layout of coronary arteries of the left and right ventricle. In the fact that occlusion and infarction of coronary circulation occurs most frequently in the left ventricle, effort is made to explain this higher incidence by the difference in the mechanic layout of the arterial distribution in the two ventricles. Whitten points out, as does Gross

before, that the angulation of the penetrating branches of the anterior descending branch of the left coronary artery is at right angles to the larger artery as they leave to penetrate the myocardium. Further, there is apparently opposite the site of the off-shoot a sort of constriction of the larger vessels, thus narrowing the lumen. In the matter of intimal proliferation and sclerosis, these "trap-like" sections of the artery favor occlusion and infarction. "Infarction caused by occlusion of the anterior descending artery or its branches," says Whitten, "was most commonly found to involve the apex and the lower half of the anterior surface of the left ventricle as well as a portion of the anterior part of the inter-ventricular septum. The papillary bundles of the left ventricle sometimes were involved." Whitten reports his work upon the basis of a study of forty-seven cases of myocardial infarction and in every case the left ventricle was involved, as shown at autopsy. In thirty-six of the cases, the left coronary artery was involved and in twenty-two of the cases, the infarction was found in that portion of the left ventricle supplied by the right coronary artery.

This too brief comment on this painstaking piece of work, that worthily may claim the time of an appreciative medical reader, is made to draw attention to the importance of the study of circulation and blood supply of the heart. Every practitioner is better able to meet the demands of exacting therapeutic requirements of cases of angina pectoris and coronary thrombosis, as he is able to visualize the layout of the heart's circulation and to keep in mind the fundamental pathological changes that stand back of the tragic symptoms of these heart syndromes.

Cholesterol, Lecithin Phosphorus and Fatty Acids in the Remissions of Pernicious Anemia.

One may read with interest Muller's* paper, with the above title, because of the unsettled state of our knowledge of the factors at work in recovery from liver diet in pernicious anemia. After giving the reader a viewpoint regarding the relation of cholesterol, lecithin and fatty acids and the remission of pernicious anemia, he proceeds to study the situation in

*Arch. Int. Med., March, 1930, page 383.

*American Journal of the Medical Sciences, March, 1930, page 310.

twenty-six cases of pernicious anemia. He found that in relapse, the cholesterol and lecithin phosphorus were low and that fatty acids were variable but apparently within normal limits. In typical cases, the cholesterol rises suddenly at the onset of the remission; the increase of cholesterol occurs before there is a definite increase in the concentration of erythrocytes and hemoglobin. The increase appears to be regardless of blood transfusions but is responsive to potent material effective for pernicious anemia. This may be material fed in the form of liver, kidney, liver extracts, or certain preparations of meat partially digested with normal gastric juice. In cases where inadequate amounts of potent material effective for anemia were fed, the cholesterol level showed wide fluctuations; when, however, optimal amounts were fed, a decrease in fluctuation was noted and a normal level was maintained. It was found also that after the rise of cholesterol, increase of red blood cells is not followed by a proportionate increase of cholesterol, although values above normal were obtained.

This author points out that low cholesterol and lecithin phosphorus content at the plasma in complete relapse of pernicious anemia is dependent on the disease process and that the establishment of a normal level of lipoids is closely related to the onset of remission or the changes that occur when reticulocytes respond to therapy and when there is a decrease of bilirubin in the plasma and a sudden improvement of the patient.

Cholesterol in the Treatment of Asthma.

A correspondent from Budapest* reports some work of suggestive importance in regard to the treatment of asthma by intramuscular injections of cholesterol. Because of the occurrence of improvement of certain asthmatic patients after injection of cholesterol, assumption was made that there may be some such conditions existing in this allergic condition as exists in diabetes, where the tissues are poor in sugar and the blood hyperglycemic. It was found that in attacks, there was present a state of hypercholesterolemia; that attacks of asthma can be checked by the intramuscular injection of cholesterol. It was observed that anaphylactic shock was attended by hypercholesterolemia and that the tissues were

cholesterol poor at the same time. It is thought, therefore, that when the attack of asthma is checked or prevented, a state of normal cholesterol value exists in the tissues of the body.

Cerebral Blood Supply.

Anatomical peculiarities of the blood supply of the brain are brought to mind by recalling the existence of the circle of Willis and the four main arteries (vertebrals and the two carotids). The more or less terminal character of the capillary distribution in the brain makes diseases by occlusion, sclerosis or the accident of rupture with hemorrhage, important desiderata. In connection with the pressure of cerebrospinal fluid, which is found in the subarachnoid spaces of the brain and spinal fluid and also in the ventricle of the brain, there is some question of its relation to the control of the blood supply of the brain tissue. Physiologists say that it is impossible to state to what extent there is a reciprocal mechanism between arteries and veins; whether or not veins contract in proportion as arteries dilate. It is probable that dilatation and constriction of intracranial vessels is comparable to that which occurs in other vascular fields of the body although there may be special limitations owing to the skull.

A recent editorial in the *Journal of the American Medical Association** brings to attention of its readers observations upon the vasomotor regulation of cerebral vessels. It is pointed out that the brain, lungs, liver, spleen, kidneys and erectile tissues display notable local peculiarities in the circulation. Blood supply to the brain, influenced and affected no doubt by the rigid osseous cranium makes for special and serious influences of pressure on brain tissue. Cerebral circulation, however, tends to follow, it is observed, passively the slightest changes in aortic and vena cava pressure. Attention is drawn, in this connection, to the work at Boston City Hospital which indicates that arterioles, capillaries and venules of the human brain respond with prompt dilatation to histamine. To an average dose of histamine phosphate, given intravenously, the spinal fluid pressure showed a marked rise. Here it is stated that "during and slightly after the rise of the spinal fluid pressure, the excursions of the oscillatory pul-

*J. A. M. A., August 24, 1929, page 626.

*J. A. M. A., August 24, 1929, page 613.

sation of the spinal fluid were greatly increased, although there was no demonstrable rise in the simultaneously registered arterial or venous blood supply."

Another phase of this question of cerebral vessels may be made and that relates to the status of the arterial vessels themselves. We have recently noted the widespread comments in literature concerning the manifestations arising in coronary sclerosis with ultimate occlusion of the lumen of certain branches of this system; and too, publications have directed attention to the gross and serious effects upon the function and even the life of the part supplied, in blood vessels of the extremities which have taken on the pathologic changes of thrombo-angiitis obliterans or arteriosclerotic disease of the vessels of the feet. One knows, particularly, the gross changes that occur in the earlier stages of this process in the feet in which there is rubor and blanching of the tissues following depression and elevation of the extremities. In such arterial disturbances, partial arterial occlusion is followed often by thrombosis and gangrenous changes. In coronary disease in the heart, a like process may be conceived as taking place, when the serious symptoms of coronary occlusion, as signalized by angina pectoris syndromes, appear. Changes in the intimal coat and sclerotic changes in the wall of arteries of the cerebral circulation may be visualized as suffering the same direful process.

News Notes

Meeting of the Southside Virginia Medical Association and Opening of the Medical Center at Central State Hospital.

A joint meeting of the Southside Virginia Medical Association. Dr. J. A. Grizzard, president, and the staff of the Central State Hospital for the colored mentally sick and defectives, was held March 11, 1930, at the institution. The occasion was featured by the opening of the new medical building, and demonstration clinics in conformity with the plan of the Department of Clinical Education of the Medical Society of Virginia. The attendance of members was the largest perhaps in the history of the Association. There were present guests representing the State Medical Society, the Department of Medicine of the University of Virginia, the Medical College of

Virginia, and the Department of Public Welfare. Dr. Albert Anderson, superintendent of the State Hospital at Raleigh, North Carolina, was an interested visitor.

Several years had elapsed since the Society had met at that institution or since large groups of practicing physicians had assembled there to witness clinics conducted by distinguished physicians and surgeons. It was observed by the visitors that during the intervening years the institution had considerably enlarged its capacity and in several ways increased its usefulness. There had been a continuous increase in the number of patients, until it has reached the 2,600 mark, indicating either the increase of mental disorders in the negro, or more recognition of these orders.

The symposium on syphilis was comprehensive and enlightening and showed careful study and preparation by those who contributed the formal papers, Drs. W. M. Bowman and J. Bolling Jones, of Petersburg; Dr. C. C. Coleman, of Richmond; Dr. S. E. Gunn, of Hopewell; and Dr. F. T. Hyatt, of the Hospital staff. The discussion which followed the reading of all the papers, in which several members participated, was elucidating and informative.

The clinics, all of which elicited much interest, embraced a variety of physical and mental ailments. They were conducted by resident and visiting members of the hospital staff. The general medical clinics were conducted by Dr. Mason Romaine, assisted by Dr. E. W. Young, both of Petersburg, and Dr. Hyatt, of the Hospital staff; the surgical clinic by Dr. G. H. Reese, of Petersburg; and the psychiatric clinic by Dr. Paul V. Anderson, of Richmond.

The assistant physicians of the hospital, Drs. M. S. Brent, W. T. Wimbish, F. T. Hyatt, and J. R. Gill, aided in the clinics. Patients of the institution supplied the case material for the demonstrations which included syphilis, skin disease, goiters, pellagra and various types of mental disorders—paresis, dementia praecox, paranoia, manic-depressive insanity, mental deficiency and epilepsy. The psychiatrist did not have time to discuss in detail the cause, origin and development of the psychopathological manifestations, but he gave the clinical history, pointed out the diagnostic signs and outlined the approved methods of treatment.

What changed and more intelligent ideas

we should have relative to so-called insanities, how in many instances to prevent them and how to treat the patients in early stages, if more physicians and also the interested public, could witness such instructive clinics! Doubtless many cases of suicide and homicide could be prevented if physicians and laymen knew more about incipient symptoms of mental disease. Mental clinics are as vital to a state mental hygiene program as the tuberculosis clinics are to a general public health program.

The psychiatric demonstration clinic, the one last summer at the University Medical School under the joint auspices of the Albemarle County Medical Society and the State Bureau of Mental Hygiene, conducted by Dr. J. K. Hall, consultant psychiatrist of the bureau, and the one last fall at the meeting of the Medical Society of Virginia, conducted by Dr. DeJarnette, superintendent of the Western State Hospital from which the clinical material came, indicate an advance trend in mental hygiene in the State.

It was around the new medical building, the latest landmark in the history of the Hospital, that special interest of the nearly two hundred visitors, including physicians and laymen, centered. The Hospital has to its credit a list of achievements in material and scientific things, some of which constitute pioneer work, covering a period of many years. Among these are separate buildings for the epileptic in 1896, and for the tubercular in 1904, a psychopathic pavilion for the special care and treatment of recent and acute mental cases in 1904, a building for the segregation of the criminal insane in 1907, the farm colonies system inaugurated in 1904, a colony for the feeble-minded authorized in 1914, and the first building occupied in 1923, and the development of various modern equipment and facilities for the study and treatment of mental disease. But in the new medical building the Hospital has taken another step forward in psychiatry in the State.

The day's program closed in the evening with the formal opening of this new building and a dinner served in its large dormitory. Dr. R. L. Raiford, secretary of the Southside Association, presided. Dr. H. C. Henry, superintendent of the Hospital, welcomed the attending members of the Association and the invited guests, many of whom were laymen. He gave an interesting account of the origin of the institution in 1870 and its subsequent

development, and made pleasing personal references to those who had been prominent in its service. He said that to Governor Byrd, Commissioner Bane, Robert B. Cooke, Edward C. Palmer, and Dr. J. K. Hall, members of the Board should the honor for the building be given, for without their splendid cooperation the idea of a Medical Building would still belong in the category of visions and dreams. He described the new Medical Center and its equipment and explained that the purpose for which it would be used was for study and investigation of physical conditions, scientific study and treatment, and to serve as a means of establishing closer connection between the general profession and the hospital. In the building are located the equipment for scientific research, the laboratory, the prescription department, the operating room, and facilities for diagnosis and treatment of physical disorders, usual in any up-to-date general hospital. The cost was \$130,000.

The chief address was made by Mr. Frank Bane, Commissioner of Public Welfare and Chairman of the Board of Directors of the State Hospitals. He outlined the progressive policy of the department in endeavoring to provide the best possible means of care and treatment of the mentally sick in the State institutions, including adequate and modern buildings, material conveniences, comforts, ample and nourishing food and adequate nursing and the best possible medical treatment. He stressed the importance of prevention of mental disease, and more interest on the part of the profession and the public generally in the State hospitals, and pledged support and cooperation in the plans of the Department of Clinical Education of the Medical Society of Virginia, as demonstrated in the clinics held in the afternoon. He further pointed out that the Department established last year a Bureau of Mental Hygiene, which has already entered upon a comprehensive program of activities which will disseminate knowledge relative to mental health and will doubtless gradually result in the reduction of mental disorders. The commissioner's remarks carried strongly the idea that the effects of this meeting and the opening of the new Medical Center should be to impress upon the public consciousness that this State institution and other similar institutions are hospitals intended for the care and treatment of mental ill persons and not for merely custodial housing of the insane and

that the mental ills are recognized by the best medical authorities as preventable and curable.

Those making extemporaneous remarks were Dr. Charles R. Grandy, president of the Medical Society of Virginia, Dr. W. T. Sanger, president of the Medical College of Virginia, Dr. J. Allison Hodges, chairman of the Department of Clinical Education of the Medical Society of Virginia, Dr. J. S. DeJarnette, superintendent of the Western State Hospital, and Dr. William F. Drewry, director of the State Mental Hygiene Bureau, who was until a few years ago superintendent of the Hospital. All these speakers commended the progressive step taken in establishing the new medical center and the work generally in behalf of the mentally sick being done under the supervision of the Department of Public Welfare and by the hospitals and colonies. The several speakers discussed from different points of view the importance of the highest possible standard of State care and treatment of mental patients, the prevention, and early recognition of mental disorders and the need of closer sympathetic relationship between those responsible for the State care of the mentally afflicted, the State Medical Society, the medical schools, the medical profession, the health departments, and the public in general, the need and value of more widespread information about mental hygiene and the value of more clinical education.

It was the prevailing sentiment expressed one way or another that this building with its modern equipment insures improved care and treatment of the physical condition of the patients, which will undoubtedly have a far reaching effect also upon their mental condition, enabling the hospital to work according to approved present-day methods under which the probability of recovery of patients and their resuming of useful life is greatly increased. More and more in our hospitals, not only the ideal but the accomplishment of cure as opposed to mere care has come into being. The entire program of the afternoon and evening constituted a symposium on psychiatry and mental hygiene and State care for the mentally sick, all of which should result in promoting a better understanding of the State hospital system by the medical profession and the general public, linking general medicine and mental medicine, so to speak, and the State public welfare activities in a closer relationship.

One of the results of the practical demonstration of psychiatric clinics and such conclusions as were drawn from this meeting should be the establishment of permanent in-patient and out-patient psychiatric clinics in connection with each of the State institutions. But preparatory to that forward step there should be at each hospital staffs of psychiatrists, psychiatric social workers and nurses, adequate in number and in training.

In closing these notes on the happenings of the joint meeting, the reporter will record the impression of one of the most analytical observers engaged in the public welfare service of the State: "The closest possible working together of the medical profession and the psychiatrists of the State is urgently desirable. This joint meeting today at the Central State Hospital and the relationship it signifies should be of help to both. The hospital, with its 2,600 patients and its 500 annual admissions, is opening its doors to physicians for purposes of study. Included in this number of patients are many who afford to the doctors exceptional opportunity to observe physical pathology as well as mental. Moreover, psychiatry itself is a medical problem since physical illness or defect can produce mental deficiency or disease and mental conditions can and do seriously affect bodily health. The physician encounters the mental patient in the early stages of his trouble when often much could be done through preventive measures to ward off possible mental sickness. An appreciation of psychiatric factors is invaluable to the doctor who inevitably has to deal in the course of practice with cases of physical complaints which have a psychogenic basis."

NOTE:—The successful development and usefulness of an institution depends upon the qualities of service of those who direct its policies and administer its affairs. Among those who have rendered conspicuous service to the Hospital was Mr. Robert B. Cooke, of Norfolk. His passing away within a few days after this latest step in the development of the institution, of which he was director for forty years, brings sadness to the hearts of those with whom he was associated for so long.—W. F. D.

Graduate Clinic at University of Virginia.

Announcement has been made that the University of Virginia, Department of Medicine, will hold its next Graduate Clinic the first week in May. In view of the increasing interest of Virginia doctors in graduate clinics, a large attendance is expected.

The Alleghany-Bath County Medical Society,

At its regular meeting on February 14th, elected the following officers for the ensuing year: President, Dr. Courtney Edmond, Clifton Forge; vice-president, Dr. B. B. McCutchan, Clifton Forge; secretary, Dr. R. P. Hawkins, Jr., Clifton Forge; treasurer, Dr. W. M. Revercomb, Clifton Forge. Delegates and alternates were also selected to represent this Society at the Norfolk meeting of the State Society. Their names will be announced in a later issue. This Society has thirty-six names on its roll and meets bi-monthly.

Resolutions passed by the Alleghany-Bath County Medical Society on the deaths of Dr. J. W. Wallace and Dr. J. A. Riffe, two of their members, appear under Obituaries in this issue of the MONTHLY.

The Wise County Medical Society,

At its annual meeting on the fourth Wednesday in February, elected Dr. S. P. Gardner, Derby, president, and re-elected Dr. W. R. Culbertson, Norton, secretary. This society has a membership of thirty-seven, and meets bi-monthly.

The Southwestern Virginia Medical Society

Held its regular semi-annual meeting in Radford, Va., March 24th and 25th, opening with their banquet, as usual, on the first evening. This was held at St. Albans Sanatorium. The meeting was well attended, there being nearly one hundred physicians in attendance. Dr. Charles R. Grandy, President of the State Society, was among those attending, and gave a short talk. Dr. Horton Casparis, professor of pediatrics at Vanderbilt University, Nashville, Tenn., spoke in place of Dr. W. S. Leathers, and discussed not only diphtheria but all the communicable diseases of childhood. Several papers were also presented by members, all of which were informally discussed, including the talk by Dr. Casparis. Dr. J. Coleman Motley, Abingdon, president of the Society, presided. Dr. E. G. Gill, Roanoke, is secretary-treasurer.

Successful Clinical Meeting.

As we go to press, Dr. Charles R. Grandy, president of the Medical Society of Virginia, writes that the Clinical Meeting of the Norfolk County Medical Society, held on March 31st, "came off very successfully, there being something like one hundred and thirty-five or one hundred and forty doctors present at the Clinical meetings, and over three hundred people at Dr. Jackson's meeting, to which the pub-

lic was invited. There were certainly over seventy-five visitors from outside of Norfolk County, and everybody seemed very much pleased with the Clinics and hoped that they would be repeated next year." It is hoped to have a more detailed report later.

Eighty Years "Young."

All government medical services were officially represented in the throng which came together in Memorial Continental Hall, in Washington, D. C., on April 8th, to honor Dr. William H. Welch, "dean of American medicine," on the occasion of his eightieth birthday.

President Hoover, Dr. Livingston Farrand, president of Cornell University, and Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research, were among those to pay tributes to Dr. Welch. The program was broadcast on a complete national hook-up, as well as by short wave to foreign countries.

Dr. Welch, now Professor of the History of Medicine in the Johns Hopkins University, has for half a century been a conspicuous leader in modernizing American medical education. In recent years he has pioneered in developing the public health movement. His advice has been sought by several Presidents of the United States and by many others in official positions.

Married.

Dr. Charles Hanson Peterson, of Roanoke, Va., and Miss Cornelia Brooking, of Orange, Va., in Charleston, W. Va., March 13. They will live at 426 Stanley Avenue, South Roanoke, Roanoke, Va. Dr. Peterson is a member of the class of '26, University of Virginia, Department of Medicine, and, after a service as resident physician and resident roentgenologist at the University Hospital, has located in Roanoke, where he is in charge of the X-ray department of Jefferson Hospital.

Dr. Algernon Storrs Warinner, of Hempstead, N. Y., son of the late Dr. and Mrs. J. E. Warinner, of Richmond, Va., and Miss Anne Aili Harkonen, of Fitchburg, Mass., March 15.

Dr. John Hudson Robinson, of the class of '29, Medical College of Virginia and formerly of Shinnston, W. Va., and Miss Elizabeth Fern Goodman, of Richmond, Va., February 22. They are at present making their home in New York.

The West Virginia State Medical Association

Is to hold its annual meeting at White Sulphur Springs, W. Va., May 20-22, under

the presidency of Dr. Walter E. Vest, of Huntington. Great interest is being taken in this meeting and it is anticipated that it will be one of the best in the Society's history. A number of out-of-state doctors will appear on the program, including two Virginians—Dr. James H. Smith, Richmond, and Dr. W. R. Whitman, Roanoke.

Tribute to One of our Doctors—Dr. Garcin.

The Virginia Masonic Herald, in a recent issue, makes editorial mention of the splendid service rendered by Dr. Ramon D. Garcin, of Richmond, to the children in the Masonic Home, located just outside of Richmond. In speaking of the large amount of work done by Dr. Garcin, the editorial says:

"If the Masons of this State had been called upon to pay in cold cash for medical attendance upon the Home during the years of its existence the sum of \$400,000.00, based on regular professional charges, would barely cover the services Dr. Garcin has rendered during his thirty-seven years of unselfish labor, and in all these years he has asked for no greater fee than the 'privilege of service'."

Prevention and Control of Venereal Diseases.

Surgeon-General H. S. Cumming, of the U. S. Public Health Service, in a recent report to Congress, states that the control of venereal diseases may still be regarded as one of the most important public health problems in this country today. It is estimated that, in spite of preventive measures which heretofore have been applied and the decrease in prevalence which must have taken place since the World War, there still are constantly under treatment or observation by physicians and in clinics in the United States approximately 474,000 cases of gonorrhea and 643,000 cases of syphilis.

The Public Health Service has continued its efforts to reduce the prevalence of venereal diseases, through cooperation with State and local health authorities. New activities recently undertaken included an investigation of the syphilis problem among rural Negroes in the Southern States and a campaign for prevention of venereal diseases among seamen in the American Merchant Marine and other beneficiaries entitled to treatment in the hospitals of the Service.

The Service is now cooperating with the Committee on Research in Syphilis (Inc.), a philanthropic organization for the development and coordination of syphilis research, and

with the Health Section of the League of Nations, in clinical studies of syphilis.

Dr. W. J. Mayo Will Deliver Lecture at Medical College of Virginia.

Dr. William J. Mayo, Rochester, Minn., will deliver the first Stuart McGuire lecture at the Medical College of Virginia, Richmond, on Monday, May 12, 1930. This lectureship has been established in recognition of Dr. Stuart McGuire's presidency of the college from which he retired in 1925. The general public as well as the profession will be invited to attend.

Dr. Stuart MacLean,

Richmond, Va., has removed to his former offices at Grace Hospital, 401 West Grace Street, this city, where he is a member of the surgical staff of that institution.

Annex to Park View Hospital.

On the evening of March 6th were held the ceremonies incident to the formal opening of a new fireproof and modernly equipped annex to Park View Hospital, in Rocky Mount, N. C. A large number of visiting physicians attended the supper and exercises which followed. The annex is fireproof and contains twenty-six rooms, sun parlors, a suite for interns, staff room, and a large dining-room.

Distribution of Physicians in the Various States.

The Diplomat publishes a table prepared by the Council on Medical Education of the A. M. A., on the Supply of Physicians in the United States by States. From this it is interesting to learn that District of Columbia, comprising the city of Washington, leads in both the number of physicians to each 10,000 people as well as in the number to each 100 square miles, there being 1,848 physicians to each 10,000 people and 2,980.64 physicians per 100 square miles.

South Carolina has the smallest number of physicians per 10,000 population, the rate being 7.09 per 10,000, with Montana a close second with a rate of 7.10 to 10,000. Nevada shows the smallest number of physicians per 100 square miles, the rate being only 0.12 per 100 square miles, though this State has a rate of 16.66 physicians per 10,000 population. There are eight states besides Nevada with an average of less than 1 physician per 100 square miles.

Our readers will be especially interested in knowing that Virginia averages 9.84 physicians per 10,000 population, with a rate of 6.22 physicians per 100 square miles.

Dr. J. Shelton Horsley,

Richmond, was appointed by Dr. Charles R. Grandy, president, to represent the Medical Society of Virginia officially at the Centennial meeting of the Tennessee State Medical Association, in Nashville, early this month. Dr. Horsley was also on the program to give a special address, by invitation.

Dr. C. B. Bowyer,

Stonega, Va., has returned home after a vacation in Florida, where he went for golfing.

Dr. and Mrs. Joseph Bear,

Of Richmond, have returned from Rochester, Minn., where Dr. Bear attended the Mayo Clinic. On their return, they stopped over in Chicago where they visited relatives.

Dr. W. C. Ashworth,

Superintendent of Glenwood Park Sanitarium, Greensboro, N. C., was recently elected president of the Medical Arts Club of that city.

The Clinch Valley Medical Society.

Composed of the counties of Buchanan, Dickenson, Wise, Lee, Scott, Russell and Tazewell, will hold its Spring meeting at Richlands, Va., April 26th, under the presidency of Dr. J. B. Wolfe, of Coeburn. Dr. C. B. Bowyer, Stonega, is secretary.

With the cooperation of the Department of Clinical Education of the State Society, it is planned to devote this meeting largely to clinics. Dr. Charles R. Grandy, Norfolk, president of the State Society, will attend this meeting, as also will Dr. J. Allison Hodges, Richmond, who by virtue of his office as president-elect is chairman of the Department of Clinical Education. Names of those conducting clinics are given in the Department of Clinical Education of this issue.

Dr. O. Noel Morison,

Of the class of '28, University of Virginia, Department of Medicine, resigned April 1, 1930, as assistant physician at the Binghamton (N. Y.) State Hospital, to accept a fellowship, for a period of one year, at the Institute for Juvenile Research, Chicago, Ill.

Marked Reduction in Incidence of Trachoma Among Indians.

A marked reduction in the incidence of trachoma on the Indian reservations of Arizona and New Mexico is noted in a recent report from the United States Public Health Service sent to the National Society for Prevention of Blindness.

Surveys conducted in 1928 among eleven southwestern tribes disclosed that the substitution of the ophthalmologist for the medicine man since a similar survey was made among the same tribes in 1912 had brought about a reduction of approximately 64 per cent in the incidence of trachoma. Of the 4,700 Indians examined in 1912, more than 24 per cent suffered from trachoma, whereas less than 9 per cent of the 6,700 Indians examined in 1928 showed symptoms of trachoma.

The Gorgas Memorial Institute,

With executive offices at 1331 G Street, Northwest, Washington, D. C., every two weeks releases short newspaper articles for publication. These articles are prepared by well-known physicians from all parts of the country, under the direction of the Gorgas Memorial Institute, which was organized to perpetuate the life work of the late Major-General Gorgas in preventing unnecessary illness.

It is interesting to note that one of the articles in the March series was by Dr. Charles R. Grandy, president of the Medical Society of Virginia.

The International Congress on Mental Hygiene

Is to be held in Washington, D. C., May 5th to 10th, inclusive, under the presidency of Dr. William A. White, of that city. As this meeting has so much of interest for doctors generally and is so convenient by auto and train, we hope many of our members will avail themselves of the opportunity to attend the various sessions.

Impetus will be given to the activities in the entire field of mental hygiene by this Congress. Interest in mental health and the prevention of mental disorders has been rapidly increasing for the past few years throughout this country and the world, as for that matter, if one is to judge by the publications in medical and special journals and the amount of literature in book and pamphlet form that have been put out, dealing with the subject. One is also impressed by the activities of various medical and welfare organizations and by governments in many parts of the world.

The Congress and the national associations meeting conjointly with it will bring together noted mental hygienists, psychiatrists, psychologists, general medical practitioners, neurologists, health officers, educators, lawyers, welfare administrators, psychiatric social workers,

nurses and others studying the problems of mental disorders and human behavior. They will come from every state in this country, from Canada, the South American countries, European countries, Japan, China, India, Egypt, South Africa and elsewhere. In some parts of the world, China, for instance, the mentally sick are still most grievously neglected, largely because of the prevailing ignorance and superstition relative to the subject.

The topics that will be discussed cover every phase of mental hygiene, for instance: Magnitude of mental hygiene as a public health problem; facilities for prevention and treatment of mental and nervous diseases; organization of the mental hospital and its role in community life; psychiatric hospitals and psychiatric service in general medical and surgical hospital practice; the teaching of psychiatry in medical, nursing and social work and other professional schools; the role of the psychiatric social worker in therapy; syphilis in relation to mental hygiene; alcohol as a problem in mental hygiene; the place of genetics in a mental hygiene program; mental hygiene problem of industry, of dependency, of delinquency; mental hygiene problems of college, high school, graded school, etc.; organization of special types of clinical service, as in courts of justice, penal and correctional institutions, out-patient departments of hospitals, community clinics; graded and high school clinics; college clinics; clinics in social welfare agencies; child guidance clinics; school-home relationship in child development; mental hygiene problems of children; the neurotic child; problems in modern psychiatry; public education in mental hygiene.

Arrangements have been made to hold all the evening sessions of the Congress in Constitutional Hall, the magnificent new auditorium of the Daughters of the American Revolution which seats nearly 4,000 people. Among the educational features of the Congress will be the installation of a book and journal display, showing the outstanding literature of mental hygiene and the various departments of knowledge related to the subject in all its ramifications.

Those desiring further information relative to the Congress should communicate with the Administrative Secretary, First International Congress on Mental Hygiene, 370 Seventh Avenue, New York, N. Y.

The Southern Orthopedic Hospital,

Richmond, Va., announces that Miss Betty Jones, a graduate of the Battle Creek Sanitarium School of Dietetics in 1920, has joined its staff as dietitian. She took special training after graduation and comes to Richmond after eight years' practical experience at Memorial Hospital, Lakeland, Fla. The Southern Orthopedic Hospital announces that it is now in position to provide any particular type of diet for patients committed to its care. The hospital is located at 2112 Monteiro Avenue, this city.

The James Marion Sims Memorial.

Was unveiled on May 10, 1929, at Columbia, S. C. In 1910, a legislative act was passed providing an appropriation of \$5,000 for the Memorial, this to be matched by a similar sum from the doctors. Less than \$100 was collected, and the movement lagged until taken up by the Woman's Auxiliary of South Carolina at their State meeting in 1927. They carried on a financial campaign which resulted in the collection of \$3,000. A bill was passed for an appropriation equal to the sum collected by the Auxiliary and \$3,000 was turned over to the Treasurer by the State Legislature.

This memorial is situated in the Capitol Grounds, at Columbia, and is built of Mt. Airy, N. C., granite in the form of a panelled background containing a niche for the pedestal on which rests the bronze bust of Dr. Sims.

New Health Examination Program by New York Physicians.

Dr. Iago Galdston, Secretary of the Greater New York Committee on Health Examination and Executive Secretary of the Medical Information Bureau of the New York Academy of Medicine, has announced that because of the success of the recently completed Health Examination Campaign to improve the health of the city of New York, a new program involving a year's activity will go into effect at once. Every effort will be utilized for reaching the public by a program fostered by the Five County Medical Societies, which represents 12,000 physicians of New York. All measures used in last year's campaign will be utilized together with one new phase—an intensive research and investigation to be conducted by the Committee on the type of health education carried on by industrial and health organizations. Special Health Examination Day will be held in schools and churches, and radio addresses and public

lectures will be made regularly throughout the year.

New Councilor for Tenth District.

Dr. J. M. Emmett, Clifton Forge, Va., has been appointed by the president, Dr. Charles R. Grandy, as councilor for the Tenth District, succeeding Dr. J. F. Fulton who recently tendered his resignation.

Dr. A. B. Schilling.

Recently of Washington, D. C., is now located at 503 Monroe Avenue, Elizabeth, N. J. Dr. Schilling has maintained his membership in the Medical Society of Virginia ever since his connection with the U. S. Idle Fleet at Lee Hall, Va., several years ago.

Dr. John L. Thornton.

Of Warrenton, Va., after spending several months at Tucson, Ariz., is now at Mount Regis Sanatorium, Salem, Va. Mrs. Thornton and John L. Jr., are now in Warrenton.

Dr. Margaret P. Kuyk

Returned to her home in Richmond, Va., last month, after a visit to the countries bordering on the Mediterranean, since early in January. Dr. Kuyk is professor emeritus of physiology and hygiene at Westhampton College, Richmond.

Removal Notice.

Mr. Wm. L. Sohl, of the Laine Chemical Company, announces removal of his offices from 2053 Seventh Avenue, New York City, to 51 West 81st Street, that city.

Prize for Thesis on Some Phase of Goiter.

Beginning this year the American Association for the Study of Goiter will award a cash prize of \$300 annually for the best original thesis dealing with some phase of the goiter problem. Theses should be submitted by June 1st, to Dr. Walter M. Simpson, Chairman of the Essay Committee, Miami Valley Hospital, Dayton, Ohio. The award will be given immediately following the coming meeting of the Association which is to be held in Seattle, Washington, July 10-12, 1930.

May Day 1930—National Child Health Day.

Schools and communities are requested to set aside a day in May again this year as National Child Health Day. The slogan for this year is "Every Parent and Every Community United for Health for Every Child." The American Child Health Association, 370 Seventh Avenue, New York City, has prepared a number of posters and leaflets for this occasion, which are for sale, singly or in quantities.

Dr. Reid White, Jr.,

Lexington, Va., has been appointed post surgeon at the Virginia Military Institute, that place, until the close of the present school year, to fill the vacancy caused by the death of Dr. R. Bruce James.

The State Board of Health Distributes Anti-Syphilitic Drugs to Physicians at Reduced Cost.

During the meeting of the Medical Society of Virginia at Charlottesville last fall, the Virginia Social Hygiene Council, a group of physician members of the Society, by resolution requested the State Health Department to distribute drugs for the treatment of syphilis at a minimum cost price.

In response to this resolution the Department has received bids from manufacturers and has purchased a supply of neoarsphenamine and sulpharsphenamine. They are prepared to distribute these drugs at cost plus postage, to the profession in Virginia, for the treatment of any cases of syphilis they may have under their charge.

The drugs may be secured from the State Department of Health, C. O. D., or by prepaid check, at the following prices:

Neoarsphenamine

.6 gram, 15c per ampoule.

.9 gram, 17c per ampoule.

.3 gram, 13c per ampoule.

Sulpharsphenamine

.6 gram, 20c per ampoule.

.9 gram, 22c per ampoule.

.3 gram, 17c per ampoule.

10 c.c. bottle of double distilled water, at 8c per bottle.

Accompanying each dose will be a sterile container with 10 c.c. double distilled water ready for immediate use. Full directions for administration of the drugs are furnished. The water bottle may be used as a mixing vessel.

It is hoped that physicians throughout the State will find it expedient more generally to take blood from their patients for diagnostic purposes, and send it in to the State Laboratory. When syphilis is diagnosed, treatment by the modern methods is urged.

Sulpharsphenamine, as is well known, may be given intramuscularly with good effect, and presents no difficulty in administration. Dr. Roy K. Flannagan, Director, Bureau of Social Hygiene, State Department of Health, Richmond, says that the Department would be pleased to have a report of cases treated and

will send a supply of forms for reports upon request.

National Hospital Day.

Hospitals throughout the United States and Canada are beginning plans for the tenth observance of National Hospital Day, May 12, according to Dr. J. R. Morrow, superintendent, Bergen Pines, Oradell, N. J., chairman of the National Hospital Day Committee of the American Hospital Association. While some institutions which have observed the day since its start are seeking new ideas, the majority of the hospitals will have "open house," reunion of babies, inspection of departments and other features which met with such success in previous years.

Most of the hospitals conducting schools of nursing which will have a National Hospital Day program will give considerable attention to a presentation of facts about nursing education and nursing service, keeping in mind that May 12 is the anniversary of the birth of Florence Nightingale.

The Virginia State Dental Association

Is to hold its next annual meeting in Richmond, May 12, 13 and 14. Information about this meeting may be obtained from Dr. A. M. Wash, secretary, Medical Arts Building, Richmond, Va.

Dr. R. E. Booker,

Lottsburg, Va., was among the speakers at the banquet held last month by the Heathsville Lodge No. 109, A. F. and A. M., at Heathsville, Va.

Dr. J. F. Thaxton,

Tye River, Va., has just recovered from a long spell of sickness.

Dr. Preston Nowlin,

Formerly of Lynchburg, Va., is now established in Charlotte, N. C., where he is connected with the department of general surgery and urology at the Nalle Clinic.

Dr. Bruce Clark,

Formerly of Virginia, but more recently of Winifrede, W. Va., has returned to Pulaski County and is now located at Hiwassee, Va.

Dr. C. Edward Martin,

North Emporia, Va., was badly hurt in an auto accident about the first of the year, at which time he sustained injuries to his spine. Though some better, it will be several weeks yet before he will be in condition to take up active work.

Fewer Young German Children Working.

Fewer children under 14 years of age in Germany are being employed before and after school hours as messengers and newsboys, according to the reports of the labor inspectors. This decrease is attributed to the cooperation of teachers and inspectors with child-welfare authorities in enforcing the child labor law, to a changed attitude on the part of parents and to the preference given by employment agencies to adult applicants for jobs because of the prevailing unemployment situation.

U. S. Civil Service Examinations.

The U. S. Civil Service Commission, Washington, D. C., announces open competitive examinations for: Senior Medical Technician, Medical Technician, (a) Bacteriology, (b) Roentgenology, applications to be on file with the Service at Washington, not later than May 7, 1930.

Also for Medical Officer, Associate Medical Officer, and Assistant Medical Officer, applications to be rated as received at Washington, until June 30, 1930.

The Medical Society of the State of North Carolina

Will meet at Pinehurst again this year, the dates being April 28th to 30th. The natural attractions at Pinehurst as usual will add greatly to the attendance at the meeting. Dr. L. A. Crowell, Lincolnton, is president, and Dr. L. B. McBrayer, Southern Pines, secretary.

Dr. Paul B. Barringer,

Charlottesville, Va., was elected honorary chairman of the Albemarle chapter of Red Cross for the coming year, at a recent meeting.

The Southern Society of Clinical Surgeons,

Composed of forty surgeons under forty-five years of age, has been visiting Chicago clinics to study surgical methods. At the annual banquet held on the night of April the 1st, Dr. John C. Burch, of Nashville, Tenn., was elected president. Other officers elected are Dr. Carrington Williams, Richmond, Va., vice-president, and Dr. Wm. P. Nicolson, Atlanta, Ga., secretary-treasurer.

Lt. Commander and Mrs. C. A. Broaddus,

Of Dahlgren, Va., left the latter part of March for China, where Dr. Broaddus will be stationed for two years. He is a graduate of the Medical College of Virginia in the class of '17.

Fatal Automobile Accidents to Children.

Thirty-five to forty per cent of the deaths due to the use of automobiles in 1929 occurring among the industrial policyholders of the Metropolitan Life Insurance Company were of children under 15 years of age. This company reported that 21 out of every 100,000 of its clients had been killed through this cause, a rate nearly one-eighth greater than for 1928. It estimates that there were more than 31,400 automobile fatalities in the general population of Continental United States and that approximately 1,000,000 persons were injured.

Dr. Guy R. Fisher,

Staunton, Va., has been elected president of the Shrine Club of that place for the coming year.

The U. S. Pharmacopoeial Convention,

For the revision of the Pharmacopoeia of the United States of America, is to be held in Washington, D. C., May the 13th. Delegates from the Medical Society of Virginia to this Convention will be Drs. Alex. G. Brown, Jr., Richmond; J. C. Flippin, University, and P. W. Boyd, Winchester. Secretary of the Convention is Dr. Lyman F. Kebler, 1322 Park Road, Northwest, Washington, D. C. Those expecting to attend are requested to make hotel reservations in advance.

Health Work for Chinese Children.

The Chinese Minister of Education has selected high schools in fifteen cities of that country in which a course in child hygiene and child care is to be given for girls between the ages of twelve and fourteen. The course consists of thirty lessons prepared by Dr. S. Josephine Baker, of New York, and translated into Chinese.

Mead's Services Free to Physicians

The various Mead Services have become almost as valuable to physicians as the Mead Products. The list is too long to be enumerated here, but includes the following: Prescription pads; Height-and-Weight Charts; Feeding Calculators; Appointment Cards; Instructions to Expectant Mothers, etc.

For further information without obligation, write to Professional Service Department, Mead Johnson & Co., Evansville, Ind.

Attend Alumni Dinner.

Dr. W. G. Trow, Warrenton, Va., accompanied by Dr. W. O. Bailey, of Leesburg, and Dr. Prentiss Bailey, of Warrenton, attended

the alumni dinner of George Washington University, Washington, D. C., on March the 15th.

Dr. H. S. Hedges,

Charlottesville, Va., first president of the Albemarle Chapter of the Izaak Walton League of America, was recently unanimously elected honorary president of that chapter. In the election of officers which occurred at this same meeting, Dr. Fletcher D. Woodward was elected one of the directors.

Speaks in Richmond.

Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, and prominent author and lecturer, delivered a lecture at the University Club, Richmond, Va., on the evening of March the 21st, his subject being "Foods, Fads, and Follies." This was scintillating with wit and held the interest of his audience as usual.

Dr. Mary E. Brydon Ill.

As we go to press, a slight improvement is noted in the condition of Dr. Mary E. Brydon, director of the Bureau of Child Health of the State Department of Health, though she is still seriously ill with pneumonia at a Richmond Hospital.

Increased Infant Mortality Rate in England and Wales.

A considerable increase in the infant mortality rate for England and Wales in 1929 over that for 1928—74 per 1,000 live births in the later as compared with 65 in the previous year—has been announced by the registrar-general in his provisional vital statistics for 1929. He attributes this increase to the serious epidemic of influenza combined with severe weather in the early months of 1929. The live birth rate was the lowest ever recorded, being 16.3 per 1,000 of the population.

Position as Assistant or a Partnership Wanted.

Two years' hospital work. General work. Majored in surgery and G. U. work. White, aged 25. Married. Protestant. Address "No. 218," care this journal. (*Adv.*)

For Sale or Lease.

Fireproof, brick hospital, modern in every detail, well equipped. Located in progressive community. Suitable for sanatorium or hospital of some definite type; another general hospital in town. Medical library and operating room fixtures, Kny-Scheerer sterilizers, etc., can be bought separately.

Write Mr. James H. Price, attorney for

estate, Times Dispatch Building, Richmond, Va. (*Adv.*)

Intensive Post-Graduate Course.

Professor Georges Portmann will give a five-week, intensive post-graduate course in ear, nose, and throat surgery, at the University of Bordeaux, France, commencing July 21, 1930. This course is open to American physicians.

For information apply to Dr. L. Felderman, Mitten Building, N. W. Cor. Broad & Locust Sts., Philadelphia, Pa. (*Adv.*)

Wanted.

A physician for a rural practice in Northern Virginia, fifty miles from Washington, D. C., in a rich, high, beautiful section with good schools, churches, excellent people and some bad roads. Collections 80 to 95 per cent—excellent territory, with good income.

Please give the following information in your first letter: Age; Married or Single; Number of children, with ages; Where Born? Where Educated? When and where graduated in Medicine? Internship, if any, when and where? Religion of self and wife; Membership in fraternities, clubs, lodges, etc.; Do you hold a license in Virginia?

Address, Box 22, Warrenton, Va (*Adv.*)

Wanted

Few younger children for excellent boarding school in Northern Virginia, near Washington, D. C. Girls not over twelve years old. Boys not over eight years old. Enroll now for session beginning September, 1930. Kindergarten. Regular courses. Music. French. Dancing. Apply P. O. Box 222, Warrenton, Va. (*Adv.*)

Obituary Record

Dr. John Garnett Nelson,

Prominent physician of Richmond, Va., died March 30th, after an illness extending over some months. He was born in Fauquier County, Va., in 1872. Upon completion of his academic education, he taught for several years before taking up the study of medicine at the University College of Medicine, Richmond, Va., from which he graduated in 1900. Dr. Nelson was well-known for his activities in connection with the Richmond Tuberculosis Association and as a leader of the McGuire Hospital unit during the World War. He was a

member of the Richmond Academy of Medicine and had been a member of the Medical Society of Virginia since 1901. Dr. Nelson was formerly a councilor of the State Society and at the time of his death was chairman of its Judiciary Committee. His wife and three children, one of them Dr. Kinloch Nelson, survive him.

As a tribute of respect to Dr. Nelson in recognition of his services as professor of clinical medicine, the Medical College of Virginia suspended afternoon classes on April 1st, that the faculty and students might attend his funeral.

Dr. Robert Bruce James,

Formerly a general practitioner of Danville, Va., but for the past few years post surgeon of the Virginia Military Institute, Lexington, Va., died suddenly March 3rd, following a heart attack. Dr. James had been in ill health for several months and had recently returned from treatment in a Richmond hospital. He was sixty-nine years of age and a graduate in medicine from the University of Virginia in 1886. Dr. James was a member of the Rockbridge County Medical Society and had been a member of the Medical Society of Virginia for forty-four years. He always took a very active interest in the meetings of his societies. His wife and three daughters survive him.

The following resolutions were adopted on the death of Dr. James by the Rockbridge County Medical Society.

WHEREAS, the Rockbridge County Medical Society having learned with deep sorrow of the death of one of its members, Colonel R. Bruce James, it is hereby

RESOLVED, That this Society feels that it has lost one of its most valued members, whose constant presence at our meetings, whose willing participation in our discussions and deliberations, and whose genial personality, added greatly to the pleasure and the value of our meetings. And we feel furthermore that in his death a great loss has been sustained by the community at large.

RESOLVED, secondly, This Society tenders to the bereaved family our sincere sympathy in this hour of distress; that a copy of these resolutions be transmitted to them; also that a copy be sent the VIRGINIA MEDICAL MONTHLY for publication.

ROBERT P. COOKE,
President.
H. L. MITCHELL,
Secretary.

Dr John A. Tyree,

Danville, Va., died March 20th, at his home in that city, after an illness of two and a half months. He was born in Danville, June 15, 1886, and was a graduate of the Medical College of Virginia, class of 1908. Dr. Tyree was a member of the Medical Society of Virginia

and the South Piedmont Medical Society. He had served also as president of the Academy of Medicine of Danville, Va.

Dr. Tyree was engaged in general practice in Blackstone, Va., for two years and in Page, W. Va., for seven years. He returned to Danville in 1921, after taking special courses in diseases of the Eye, Ear, Nose and Throat at Bellevue Hospital, New York City. After coming to Danville he was associated for eight years with Dr. L. A. Robertson and had made an enviable reputation for himself as a specialist. Dr. Tyree was an active member of the Rotary Club and also belonged to the Masonic Order. He is survived by his wife, who was formerly Miss Nannie Kelly, of Remington, Va., and three sons and three daughters.

I. C. H.

Dr. James Thornton Neel,

Gratton, Va., died January 28th. of tuberculous meningitis, after an illness of several months. He was forty-two years of age and graduated from the Medical College of Virginia in 1916. Dr. Neel was a World War veteran, having served with the 32nd Division at the front and in the Army of Occupation. He had been a member of the Medical Society of Virginia since 1926. His wife and one daughter survive him.

Dr. Spurgeon John Railey

Died at his home at Handsom, Va., March 26th, of carbolic acid poisoning. He had been in bad health for the last two years. Dr. Railey was forty-six years of age and graduated from the Medical College of Virginia in 1910. He practiced medicine at Como for a short while, then moved to Handsom, where he had been practicing for nearly twenty years. Dr. Railey was a member of the Southampton County Medical Society and of the Medical Society of Virginia. His wife survives him.

Dr. John Rice Anderson,

Martinsville, Va., died in Roanoke, Va., March 11th, after a long illness. He was seventy-one years of age and graduated from the College of Physicians and Surgeons, Baltimore, Md., in 1883. Dr. Anderson had been a member of the Medical Society of Virginia for some years. Three sisters and a brother survive him.

Resolutions on Deaths of Drs. J. W. Wallace and J. A. Riffe.

At a recent meeting of the Alleghany-Bath County

Medical Society, the following resolutions were passed:

We, the members of the Alleghany-Bath County Medical Society, fully realizing the great losses we have sustained in the deaths of Dr. J. W. Wallace and Dr. J. A. Riffe, of Covington, Va., wish to take this means of publicly expressing our deepest regrets at their untimely passings.

For many years these men were most honorable members of the medical profession in our midst. They were held in high esteem by their respective patients and in return they demonstrated the greatest sympathy for those who came to them for medical services. Dr. Wallace and Dr. Riffe always conducted themselves as gentlemen and their actions remained ever above reproach. As members of the medical profession they constantly strove to keep and maintain the principles of their calling on the loftiest plains. As citizens, they ever kept the welfare of their community at heart. We, as members of the Alleghany-Bath County Medical Society, with whom these men mingled and worked, fully appreciated their great worth and will ever be mindful of our loss. Therefore, be it

RESOLVED, That in the deaths of Dr. J. W. Wallace and Dr. J. A. Riffe, our Society, and the medical profession at large, have lost able physicians, faithful friends, and loyal citizens.

We wish to take this method of expressing our sympathy to their families and loved ones. Therefore, be it

RESOLVED, That copies of this resolution be sent to the families of Dr. J. W. Wallace and Dr. J. A. Riffe, and that it be published in the VIRGINIA MEDICAL MONTHLY.

Dr. Cicero Jasper Ellen,

Greenville, N. C., died January the 11th, at the age of forty-three years. He had graduated in medicine from the former University College of Medicine, Richmond, Va., in 1911, and served in the medical corps of the army during the World War. He was a member of the staff of the Pitt Community Hospital of Greenville.

Dr. Frederick William Groome,

Elverton, W. Va., died December 2, 1929. He was forty-five years of age and graduated from the Department of Medicine, University of Virginia in 1907.

Dr. Julian F. Ward

Died at his home in Winchester, April 1st, following several weeks' illness. Dr. Ward was seventy-nine years of age and had for many years been mayor of Winchester. He graduated in engineering at the University of Virginia and for a number of years engaged in this work. He later took up the study of medicine and graduated from the University of Virginia, Department of Medicine in 1877. He served for a number of years as medical examiner for the Baltimore and Ohio Railroad. His wife survives him.

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Virginia Medical Monthly

OFFICIAL ORGAN OF THE MEDICAL SOCIETY OF VIRGINIA

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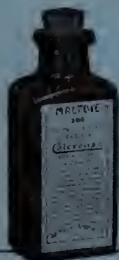
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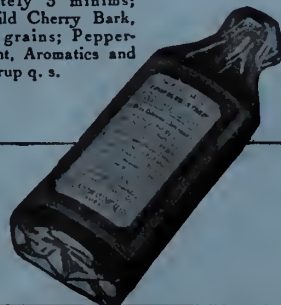
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THYROID DEFICIENCY—A CLINICAL STUDY.*

By C. LYDON HARRELL, M. D., F. A. C. P., Norfolk, Va.

Much has been written on myxedema and cretinism, comparatively little on hypothyroidism or thyroid deficiency. We are urged to make an early diagnosis of cancer and tuberculosis, if we hope for a cure; why not of the diseases of thyroid also,—to be sure, there is an early or incipient stage.

I became very much interested in the subject about a year ago. I noticed that many cases coming up for examination complained of a tired, worn-out feeling, loss of strength, under-weight and nervousness, on which no definite pathology could be found to account for the symptoms. About the same time, I noticed in our laboratory records we were getting many low metabolic readings, so I decided to study a large series.

From January first, 1929, until October first, inclusive, 252 metabolisms were done on 200 patients, of which 154 had a basal rate of minus 5 or lower. I selected fifty cases of this group for study, thirty of my own, fifteen of Dr. Redwood's, and five of Dr. Doles', all of which had a basal rate of minus 10 or lower. In this group of fifty cases, there were 40 females and 10 males, ages ranging from 13 to 68 years. The pulse rate was of no special interest; 8 cases had a pulse rate of 90 or above, the fastest 124, and the lowest was 64.

Some writers claim that hypothyroid cases run a slow pulse, low blood pressure and sub-normal temperature. I did not find it so in this series. The temperature ranged from 97 to 99.1; blood pressure—systolic, the highest 160, the lowest 90. Twenty-five had a systolic pressure of 110 or lower; these might be classified as hypotensive cases. There was not a single real obese patient in the group, though a few were slightly over-weight. The heaviest man weighed 180, the heaviest woman 179.

Symptomatology:—Twenty-eight of my thirty cases complained of a tired, weak feeling

and a loss of energy: thirty-two of the entire group, or 64 per cent, gave this as their chief complaint. Twenty-six, or 52 per cent, of the entire group complained of nervousness, twenty-five, or 50 per cent, complained of headache, eighteen, or 36 per cent, of constipation, and eighteen, or 36 per cent, of digestive disturbances of some type. Thirteen, or 26 per cent, of my group, "not mentioned by the others," gave, as one of their chief complaints, chilly sensations, cold hands and feet, required cover in the summer time and two or three pairs of blankets in winter to sleep comfortably. Thirteen, or 26 per cent, complained of pain in the muscles, chiefly of the back, seven, or 14 per cent, of throat symptoms, usually choking sensation. I have not seen this symptom mentioned by any of the other writers. Five complained of losing weight, three of gaining in weight and three of raising blood. There were a few other symptoms brought out by questions, as dryness of the skin, scanty perspiration, falling of the hair, splitting of the nails, scanty and irregular menstruation, twenty-five of the forty females giving this as one of their symptoms. Many of them stated that they only flowed two days, where they formerly flowed five to seven days. Two had stopped on account of the menopause; one stopped for four months to have her sickness re-established on taking thyroid.

On examination a definite source of infection, either acute or chronic, was found in twenty-nine of my thirty cases, and forty, or 80 per cent, in the entire group. These infections included diseased teeth and gums, chronic sinus infection, pelvic inflammatory disease, prostate, and influenza of recent date.

Six of my cases were quiescent pulmonary tuberculosis; their lungs appeared to be fibrosed or practically healed, but symptoms persisted. There may be many such cases in our sanatoria, whose symptoms of improvement have not kept pace with the improvement of their lungs, that belong in this group of thyroid deficiency.

The urine was negative for the entire group,

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

except four showed some pus. The blood did not show anything of any consequence. There were only eight that had a hemoglobin of 75 per cent or below; the blood counts were practically normal. The blood calciums were all normal: only seven had a calcium below 10 mgs. There were only four with a blood sugar below 80 mgs. The Kahn test was negative for the entire group. A gastric analysis was done on seventeen of the cases. Free hydrochloric acid was found absent in three cases, and low in nine, giving a hypo-chlorhydria of 70 per cent of the cases on which the test was done. This, I believe, to be an important point.

The group we have just studied had a basal rate of minus 10 or lower. We have had a number of cases that had a basal rate between minus 5 and minus 10, whose symptoms were just as pronounced or more so as those with lower readings and responded just as readily to treatment. Warfield¹ states that a patient with minus 8 metabolism, and Bridges² says minus 5 with symptoms, should be fed thyroid. I agree with the gentlemen, for a metabolism of minus 5 means more than a plus 15; especially with the first test, a mistake is more apt to occur on the positive side than on the negative. One should not make a diagnosis from one metabolism test alone unless all symptoms correspond, nor should you attempt to feed thyroid without frequent test. A few cases will bear special mention.

Miss M., age 23, a college girl, from near Boston, consulted me February 4, 1929, complaining of a tired, worn-out feeling, no "pep," no energy, no ambition, slight cough and constipation. She stated she had a very severe cold in November of last year, was sick in bed about ten days, and thought she had influenza. After returning to her studies, instead of gaining in strength, she grew weaker, lost interest in her work and seemed to be failing generally. Her physician advised her to go south for the remainder of the winter. She was visiting an aunt in Norfolk, who sent her to me for examination, believing she had developed tuberculosis. Examination revealed a very tall, slender, under-nourished looking girl, quite nervous, pulse 88, temperature 98.3. Blood pressure 110/80. Weight 131½; normal weight for height and age 140. Physical examination, negative. Her laboratory work was all normal, except for a minus 21 metabolic rate. She

was put on enteric coated thyroid tablets, gr. ½, three times a day, advised to eat liberally of a general mixed diet, and to rest two hours after her midday meal. A month later she returned for a second test. Her metabolism had gone up to minus 8, while she had gained three pounds in weight and was feeling a great deal better. A month later, two months from the time she started treatment, she said she felt well enough to return to school.

She was permitted to do so, but was ordered to continue the thyroid under the care of her physician. I feel in this case the influenza either over-taxed or hastened an already failing thyroid.

J. A., the son of a physician, has grown in height very rapidly, being 69¼ inches tall at 13 years of age. For several years he has been subject to severe colds and attacks of bronchitis, and would miss from two to three days from school each month. Nearly everything had been done that might help to prevent these attacks, including tonsillectomy, vaccines and the use of the Alpine lamp, with only partial relief. Last spring his father noticed that the boy appeared to be tired and languid most of the time, did not care to play, and had a poor appetite. He suggested that I do a metabolism; all other laboratory work had been negative. This was found to be minus 11. His weight at this time was 109½; his normal weight for height and age, not considering his family trait, was 144. He was given enteric coated thyroid, gr. ½ a day. One month later his basal rate was the same, minus 11. He had dropped two pounds in weight. The thyroid was increased to gr. ½ twice a day. A month later his metabolic rate had gone up to plus 43. Thyroid was discontinued for one week; he was then given ¼ grain a day. He was not seen again for two months, when he had gained seven pounds in weight, and his father says he has shown marked improvement in every way. In September his rate was minus 10; he was put back on ½ grain of thyroid a day. This case illustrates two things,—that a rapidly growing child may be deficient in thyroid, and that it is necessary to do frequent metabolism tests in order to regulate your dose.

Mrs. N., age 34, developed pulmonary tuberculosis about six years ago. She has been on the cure ever since, spending a good part of the time in sanatoriums. She has had many complications,—pleurisy with effusion, absence

of free hydrochloric acid in the gastric contents, intestinal parasites and metarogia. In spite of this she has done well and her pulmonary lesion has been quiescent for about two years, but she cannot gain her strength. In January, of this year, she was complaining of being tired and weak all the time, no endurance, menstruation very scant, raising blood streaked sputum, chilly sensation. She weighed 135, her normal weight being 131; pulse 84; her blood calcium was 9 mgs.; her metabolic rate was minus 20. She was given enteric coated thyroid one grain three times a day. She was also given para-thor-mone xv minims hypodermically once a day for three days, and calcium lactate by mouth. The streaking stopped immediately, but two weeks later she came in complaining of being very nervous, with a pulse rate of 120; the thyroid was reduced to one-half grain a day. In April her basal rate was minus 21. The thyroid was increased to a half grain twice a day. She was absent from the city during the summer, returning in September, stating that she was stronger and feeling better than she had felt for years. At this time her basal rate was minus 15. She had not had any thyroid for a month. Her weight was 128½ pounds, six pounds lighter than when she started on thyroid, but only two pounds below her normal weight. I made a mistake by beginning with too large a dose. This was my first experience with enteric coated thyroid tablets.

I have followed only one case of pregnancy with a low metabolic rate. This was a rather obese lady, weighing 209 pounds, height 64 inches, at the beginning of her pregnancy. She ran a basal rate from minus 7 to minus 12 during her entire time. She was on a strict diet, took a good deal of exercise, was fed thyroid, but, in spite of all this, she put on about thirty pounds in weight. After delivery she returned to a positive reading, without thyroid. She gave birth to an eight pound baby, who has been very active and healthy up to the present time, being now a year old.

I do not mean to infer that the thyroid gland is the only one of the ductless glands that might be deficient, but it is the only one for which we can test the direct function, and it is in all probability leader of the group. In the cases of scanty menstruation or amenorrhea, the ovary must also be deficient. Koehler¹⁴ "differentiates between hypothyroidism and

hyposuprarenalism; both groups suffer from a deficiency in energy metabolism." In his series, the first group had an average basal rate of minus 26, the latter minus 17. The first group responded to thyroid therapy, while the latter did not until suprarenal cortex had been supplied. There were none in my series that I recognized as belonging to this group. However, I think there were several that suffered with headaches that were deficient in pituitary; in fact, some were not relieved of the headaches until pituitary gland was supplied. Mariner⁸ claims that many of the thyroid deficiency cases are also deficient in pituitary, and that all adult hypothyroid cases will develop into hypopituitary if allowed to go untreated. I agree with Bridges² that infection is one of the main contributory causes of low metabolism. Sturgis¹⁰ claims that "under-nutrition is one factor contributing to a low metabolism;" even this in the adult, in all probability, is secondary to some chronic infection.

As to whether the lowered metabolism is permanent or temporary, we do not know. Ohler and Richard⁴ think that once treatment is started it will have to be continued indefinitely. In the adult, especially beyond forty, I should think this would be true, but in the child, in many instances after he reaches puberty, the gland will accommodate itself.

The symptoms of thyroid deficiency are very similar to those of myxedema, only in a milder form; in all probability, if permitted to continue untreated, many would develop into myxedema.

It is needless to say that the first attempt in relieving these cases should be to rid them, as near as possible, of all foci of infection; treat them symptomatically and build them up generally, in addition to feeding them thyroid. I do not approve a pluri-glandular treatment as the preparations are supplied by some drug firms, but I do believe in supplying one or more glandular substances where symptoms indicate.

It might not be amiss to say something about thyroid. There are many preparations on the market, with as many different strengths. The United States Pharmacopeia preparation of thyroid calls for not less than 0.17 nor more than 0.23 per cent of iodine in thyroid combination and must be free from iodine in any other combination. On the shelf of one druggist I found a complete line of thyroid preparations, not including thyroxin, put up by

Table runs across both pages.

Name	Age	Sex	Complaint	Pulse	Temperature	Blood Pressure	Weight	Menses	Basal Rate	Hair
1. S. L.....	39	M	Indigestion, tired all the time, no pep, fullness in throat, nervousness. Expectorated blood.....	96	98	110-80	140		-15	Falling
2. L. W. (Col.).....	46	F	Chilliness, fatigue, aching of limbs, fullness of head. Indigestion....	80	98.3	120-80	179	Scant	-16	
3. H. O.....	34	F	Tired and weak all the time. Streaking.....	89	97.4	110-80	135	Small	-20	
4. C. J.....	38	F	Tired, weak. Pain in back, indigestion and nervousness.....	86	98	120-70	166½	Small	-16	
5. J. T.....	28	F	Headache, constipation, tired all the time, chilly.....	84	98	115-75	120	Free	-16	
6. A. M.....	23	F	Tired, no pep, no ambition, constipated, chilly.....	88	98.3	110-80	131½	Normal	-21	
7. W. E.....	27	F	Tired, losing weight, nervousness, constipation, indigestion.....	84	99.1	105-80	123	Small	-13	
8. G.....	40	M	Gaining in weight, no pep, tired headaches, constipation, chilly...	76	97	120-85	180		-14	
9. W. D.....	40	F	Tired, headaches, chilly, nervousness, constipation.....	80	97.3	130-65	127½	Slight and irregular	-21	
10. L. H.....	46	M	Tired, no pep, headaches, constipation, chilliness.....	80		92-60	120		-18	Falling
11. R.....	30	F	Tired, weak, soreness and pain in muscles of chest. Headaches and chilly.....	84	99.1	110-90	102½		-10	
12. Mrs. G.....	27	F	Tired, too fat, weak, nervousness, fullness in throat. Indigestion...	80	98.3	95-75	117½	Slight	-21	
13. Mr. T.....	33	M	Stomach trouble, tired, nervousness, dizzy spells.....	76	98.3	128-80	144		-13	
14. Mr. S.....	40	M	Tired, weak, headaches, cough, aching, bleeding gums.....	72	98.2	110-85	100		-19	Falling
15. Miss K.....	18	F	Tired and drowsy, no pep, no ambition.....	64	98.2	100-70	90	Scant and irregular	-9 -21	
16. Mrs. J.....	30	F	Indigestion, constipation, headaches and chilly sensation.....	72	98	115-70	139	Very Slight	-20	Dry and Falling

Infections	Urine	Haemoglobin	Red Cells	White Cells	Polys.	Lymph.	Calcium	Sugar	Kahn	Gastric Analysis	Improved	Remarks
Teeth, Tonsils and Sinus	Neg.	98	5,000,000	9,450	68	30	9.66	61.5	Neg.		Yes	Improved in weight, sugar and calcium.
Pain over Gall-bladder, Pyorrhoea	Neg.	85	4,500,000	8,550	60	38			Neg.		Yes	Improved in weight and strength.
Old T. B. Quiescent	Neg.	88					9		Neg.	Free H Cl. 9% taking acid	Yes	Feeling better, stronger. Lost four pounds.
Pernicious anaemia	Neg.	75	4,350,000	7,500	63	34	10.2	79	Neg.	Free H Cl. None	Yes	In weight and strength.
Chronic sinus	Neg.	84	4,550,000	6,700	64	34	10.4	96	Neg.	Free H Cl. Normal		Lost four pounds in weight. Felt stronger. Headache no better.
Influenza two months ago, Pyorrhoea.	Neg.	80	4,750,000	6,050	60	39	10.9	83	Neg.		Yes	In weight, feeling and strength.
Incipient T. B. Chronic Pelvic disease.	Neg.	86	4,510,000	6,350	60	20	10.	9.5	Neg.	Free H Cl. 10%	No	Did not follow treatm't.
Chronic tonsillitis.	Neg.	96	5,050,000	7,450	53	44	12.2	90.9	Neg.		Yes	Felt better after tonsillectomy.
Teeth, Menopause.	Neg.	87	4,750,000	8,350	54	45	10.6	108	Neg.		Yes	Felt stronger. Did not stick to treatment. Headaches no better.
Symptoms date back to influenza, ten years ago.	Neg.	95	5,100,000	6,200	64	32	10.2	94	Neg.		Yes	Much improved.
Chronic Sinus.	Neg.	87	4,450,000	7,100	60	36	10.4	90.9	Neg.		Yes	After Sinus operation, Thyroid returned to normal, = +11.
Thyroid removed 1919. Old T. B. quiescent.	Neg.	79	4,400,000	10,500	69	30	10.2	99.9	Neg.		Yes	Much improved. Much stronger, feeling better.
Teeth, Tonsils. Chronic Prostate.	Much Pus	86	4,950,000	11,850	54	45	11.3	10.2	Neg.	Free H Cl. 8%	Yes	Infections being treated.
Chronic Tonsillitis. Teeth and gums.	Neg.	75	4,700,000	8,550	60	39	9.7	9.9	Neg.	Free H Cl. 6%	Yes	Much better in every way.
None—Young school girl.	Neg.	75	4,450,000	7,850	67	31					Yes	Much better in every way.
Teeth. Symptoms of Gall-bladder disease.	Neg.	80	4,200,000	9,000	62	37	10.7	99.9	Neg.	H Cl. 14%	Yes	Feels better and digestion is better.

Table runs across both pages.

Name	Age	Sex	Complaint	Pulse	Temperature	Blood Pressure	Weight	Menses	Basal Rate	Hair
17. Mrs. K.....	37	F	Cough, nervousness, loss in weight, tired, no pep, pain in back.....	72	97.3	100-80	110		-19	
18. Mrs. J.....	25	F	Tired, irritable and nervous.....	76	98	98-80	106		-15	
19. Mrs. K.....	48	F	Tired and weak, headaches, indigestion and nervousness.....	72	98	120-80	105	Irregular	-12	
20. J. A.....	13	M	Tired all the time. No pep, frequent colds. No desire to play ..				109		-11	
21. Miss J.....	30	F	Tired most of the time, no pep, indigestion, chilly. Eruptions on skin	96	98.3	112-88	111		-10	
22. Miss G.....	28	F	Tired, no pep, nervous, chilly. Putting on weight.....	84	98.3	110-70	140	Two days and Slight	-21	
23. Mrs. C.....	43	F	Tired and weak all the time, chilly. Pain in back.....	84	98		116	Irregular and Scant	-26	
24. Miss P.....	19	F	Fullness of throat, stomach trouble, shortness of breath.....	80	98.2	110-75	116	Irregular	-21	
25. Miss C.....	30	F	Tired easily, daily rise of temperature of 99. Pain in left leg.....	64	98.3	110-70	131		-21	
26. Miss C.....	31	F	Acne, irregular menstruation, frequent attacks of tonsillitis.....	76	99.3	110-80	103	Scant	-15	
27. Mrs. M.....	35	F	Stomach trouble, tired, very nervous, choking sensation, diarrhoea	112	99	110-80	105		-13	
28. Miss B.....	17	F	Tired, no pep. Pain in back.....	76	98.2	100-80	134		-12	
29. Mrs. L.....	41	F	Tired all the time, headaches, constipation and very nervous.....	64	98.3	90-80	120	Very Scant	-24	Dry and Falling
30. Mrs. H.....	52	F	Tired all the time, headaches and chilly. Constipated.....							
PATIENTS OF										
1. Mrs. J.....	21	F	Loss of weight.....	100		108-74	110	Absent 3 Mos.	-21	
2. Mrs. A.....	68	F	Loss of weight, chilly, indigestion and cough.....	84		100-74	110	St'p'd	-21	
3. Mrs. H.....	54	F	Cold hands and feet, nervous, discharge from nose.....	78		140-80	141	St'p'd	-20	
4. Mrs. M.....	39	F	Dizziness, nervousness. Pain over G. B. Headaches and indigestion.	70		160-97	149	Scant	-28	

Infections	Urine	Haemoglobin	Red Cells	White Cells	Polys.	Lymph.	Calcium	Sugar	Kahn	Gastric Analysis	Improved	Remarks
Sinuses and ulcerated Cervix.	Neg.	85	4,800,000	6,800	63	23	10.2	79.9	Neg.	H Cl. 25%	Sl'gt	Did not stick to treatment.
Influenza two months ago. Symptoms worse since.	Neg.	89	4,750,000	8,850	68	30	10.7	85	Neg.	H Cl. 35%	Yes	Feeling much better.
Tonsils and teeth removed three years ago.	Neg.	80	4,600,000	5,250	52	45	10.6	95	Neg.	H Cl. 19%	Sl'gt	Patient has chronic Myocarditis.
Sinus infection.			Not worked up to				this time.				Yes	Much better. Gained 7 pounds in 3 months.
Chronic running ear.	Neg.	85	4,750,000	8,600	54	46	10.04	110	Neg.	H Cl. None	Sl'gt	Patient 50 miles away. Have not been able to follow closely.
T. B., with pleurisy, two years ago. Quiescent.	Neg.		Blood work not done				at this time.				Sl'gt	Feeling stronger. Lost 3½ lbs. in 3 months.
Old T. B. quiescent. Influenza two months ago.	A few Pus Cells	75	4,500,000	6,050			10.09	80.2	Neg.		Sl'gt	Did not stick to treatment.
Tonsils removed four years ago for present symptoms, which were not relieved.	Neg.	76	4,500,000	7,200	54	42	10.8	89	Neg.	H Cl. 6%		Have not heard from since started treatment.
Chronic Pelvic disease.	Neg.	88	4,450,000	11,450	56	41	10.6	102			Yes	Feeling much better and stronger.
Chronic tonsillitis.	Neg.	82	4,550,000	6,800	64	35	10.9	92	Neg.			Has not been heard of since tonsillectomy.
Pelvic inflammatory disease	Few Pus Cells	79	4,450,000	8,650	64	33	10.9	97	Neg.	H Cl. None	Yes	Operation—Pelvic and appendectomy.
Tonsillitis. Ulcer on Cervix	Neg.	77	4,450,000	6,850	55	42	11.2	90.9	Neg.		Yes	Feeling much stronger.
Old T. B. Quiescent.		89	4,850,000	6,250	63	38	10.8	92	Neg.		Yes	Feeling a great deal better and stronger.
Chronic Appendicitis and Influenza.			Blood work not				worked up.				Yes	Much better.
DR. H. M. DOLES												
Not any.	Neg.	90	4,700,000	7,200	68	28	10.3	89.9		H Cl. 19%	Yes	Gained 15 pounds in six weeks. Menstruation regular.
Not any.	Neg.	83	4,450,000	9,850	62	27	10.8	102	Neg.	H Cl. 5%	Yes	Marked improvement.
Sinus and nasal infection.	Neg.	82	4,200,000	5,450	50	47	9.9	94.3	Neg.	H Cl. 9%	Yes	Slightly improved.
Teeth and Cervix. G. B. questionable.	Some Pus	87	5,000,000	7,400	75	22	11	144	Neg.	H Cl. 37%	Yes	Rather slight.

Table runs across both pages.

Name	Age	Sex	Complaint	Pulse	Temperature	Blood Pressure	Weight	Menses	Basal Rate	Hair
5. Mrs. O.....	27	F	Headaches, dizziness, nervousness, loss of weight and constipation...	106		110-80	112	Pro-fuse	-20	
1. Mr. B.....	33	M	Indigestion, headache and nervousness.....	99		115-80	153	PATIENTS OF	-18	
2. Mrs. H.....	31	F	Headache, nausea and vomiting...						-11	
3. Mrs. E.....	49	F	Pain in back and nervousness.....	75		125-35	116		-22	
4. Mrs. B.....	34	F	Dizziness, headache and constipation.....	86		118-60		Free	-12	
5. Miss G.....	36	F	Nervousness, constipation, burning sensation in head.....	64		104-70	143		-21 -11	
6. Miss M.....	15	F	Nervousness, headaches and constipation.....	100		110-80	99	Regu-lar	-15	
7. Mrs. M.....	35	F	Headache, nervousness and dry skin.....	62		128-80	167	Regu-lar	-12	
8. Mr. M.....	15	M	Nervousness, headaches and constipation.....	80		115-80	120		-14	
9. Miss C.....	27	F	Nervousness, skin dry. Unable to sleep.....	80		130-80	116	Irregu-lar and Scant	-15	
10. Mrs. E.....	33	F	Headache and constipation.....	59		100-60	112	Regu-lar	-18	
11. Mr. T.....	25	M	Indigestion, dry skin, nervousness, constipation.....	36		110-75	128		-11	
12. Mr. P.....	51	M	Pain in shoulder and knee.....	124		130-75	158		-11	
13. Miss K.....	36	F	Headaches, choking, tired and nervous.....	78		125-80	120		-10	
14. Mrs. W.....	27	F	Nervousness, shortness of breath, headache and choking sensation..	70		120-90	118	Pain-ful	-20 -16	
15. Miss J.....	30	F	Numbness, nervousness, shortness of breath. Does not perspire.....	74		130-80	137	Pain-ful	-14	Skin Dry

eleven different firms. Their strengths ran as follows:—Armour, desiccated gland containing 0.2 of iodine in combination; Mulford, desiccated gland, no strength given; Swan-Myers, desiccated gland U. S. P.; Lilly, desiccated gland, U. S. P.; Parke Davis & Co., desiccated gland, not less than 0.3 per cent iodine in com-

bination. Burroughs-Wellcome & Co., 1 gr. equals 5 gr. of fresh gland. Most writers advise giving thyroid without mentioning strength or make; one writer mentioned giving thyroid extract 5 to 15 grains daily. It would have been just as accurate for him to have prescribed 10 grains of purgative daily.—the druggist would

Infections	Urine	Haemoglobin	Red Cells	White Cells	Polys.	Lymph.	Calcium	Sugar	Kahn.	Gastric Analysis	Improved	Remarks
Teeth. Appendix removed.	Neg.	81	4,320,000	6,600	53	45	11.5	99	Neg.	H Cl. 35%		No improvement.
DR. FRANK H. REDWOOD												
Sinuses.	Neg.	108	6,110,000	6,450			9.6	135	Neg.	H Cl. 41%		Not heard from.
Sinuses.	Neg.	80	5,550,000	10,550	68	31	10.8	97	Neg.		No	Pituitarism. Did not follow treatment.
Pott's Disease.	Neg.						Not done.					Pott's Disease. Not heard from.
	Neg.	65	3,750,000	8,350	69	26	10	108	Neg.			Secondary anaemia. Not heard from.
Pelvic Inflammatory Disease.	Neg.	72	4,120,000	10,500	70	28	9.8	95	Neg.		Yes	Did well.
Teeth and tonsils.	Neg.	84	4,750,000	9,200	65	33	9.1	86	Neg.		Yes	Feels much better. Gained 20 pounds on Thyroid.
	Neg.	70	4,500,000	6,500	48	50	10.6	99	Neg.			Improved on Pituitary.
Tonsils and growing very tall.	Neg.	81	4,450,000	8,600	60	37	10.3	102	Neg.		Yes	Did not stick to treatment.
	Neg.	76	4,150,000	7,500	63	26	10.8	90	Neg.			Put on Thyroid. Not heard from.
Six weeks pregnant.	Neg.	74	3,840,000	5,100	65	30	10	83	Neg.			Put on Thyroid.
Abscessed teeth.	Neg.	98	5,250,000	10,800	60	35	10.1	109	Neg.		Yes	Infection removed. Given Thyroid. Much better.
Tonsils and teeth.	Neg.	82	4,540,000	5,400	42	55	10.8	72	Neg.		Yes	Infection removed. No Thyroid. Better.
Secondary anaemia.		73	4,000,000	5,450	55	38	82		Neg.		Yes	Slightly better.
	Neg.	83	3,950,000	5,350	60	36	10	90	Neg.		Yes	Given Thyroid. Some better.
	Neg.	72	4,500,000	6,650	62	34	10.4		Neg.		Yes	Given Thyroid. Very much improved.

have known just as well what he wanted. In the first place, there is no such preparation as thyroid extract, yet 25 per cent of thyroid prescriptions call for the extract, according to a well-informed druggist. There is a desiccated gland and the whole gland; the desiccated gland is five times as strong as the whole

gland, but all of these are not the same strength. In all cases, I think the gland should be fresh. I think one should become accustomed to a preparation and use this exclusively, just as you do in digitalis.

For a long time I used only Armour's preparation. Last January Parke Davis & Co. put

on the market an enteric coated tablet, and since then I have been using this entirely, with, I think, satisfactory results. Whether the enteric coated tablets are any more potent than the others, I do not know, but I believe they will keep better and do not have that disagreeable odor that the gland tablets usually have.

SUMMARY.

Fifty cases with a basal rate of minus 10 or lower have been studied, the symptoms of which were very similar to those of myxedema, but much milder. Forty, or 80 per cent, had some acute or chronic infection. Seventy per cent of those examined showed some hypochlorhydria. Thirty-five, or 70 per cent of those that took treatment, improved on thyroid therapy. I believe that a patient with a basal rate of minus 5 or lower, with symptoms, should be treated. Select the brand of thyroid that serves you best and stick to it, designating the brand when prescribing. Remember in making an examination, the endocrine glands form a very small portion of the body by weight, but they control or regulate many important functions of the body and should be given due consideration.

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Medical Arts Building.

DISCUSSION.

DR. JAMES H. SMITH, Richmond: I think Dr. Harrell has presented in a very sane way an interesting and important subject—interesting and important not because it involves the issues of life and death; indeed, rarely does it incapacitate the patient; but important because it does often have a decided bearing on the patient's sense of well being and very probably on his resistance to infection. The indications for thyroid medication, a clear-cut, classical myxedema, are too well known to demand discussion. I think we are also pretty well agreed that there is a submyxedema in which the physical signs are more or less incomplete, but in which one or more of them are found, and in this group I think the indications for thyroid are too well known to demand discussion. But I think Dr. Harrell has in mind another group in which the *symptoms*, as he says, resemble myxedema, and I think it is well to fix attention on this group in the few minutes allotted for discussion. I think there is a group in which thyroid treatment should be given and in which the results are often very happy. I do not know whether we are justified in labeling this group thyroid deficiency or myxedema or any other name in which the thyroid element comes in. If, on the other hand, we recognize that thyroid treatment is beneficial, perhaps only as a tonic, then I think we are on the safe side. To be perfectly frank, we have not mastered the subject, by any means. We see cases in which we expect to get nice results but do not get them; again, the clinical improvement is not always paralleled by an increasing metabolic rate. We can not always explain that.

Dr. Harrell has called attention to the need for better thyroid standardization than we have had up to this time. The men who know most about the subject are inclined to teach now that there is an individual response to thyroid, even so definite a thyroid preparation as thyroxin. So I believe Dr. Harrell is quite correct in expecting therapeutic results in many cases which show a low metabolic rate without reaching any frank clinical level of myxedema.

Dr. Harrell expresses some doubt as to the correctness of his reading of plus 43 after rather conservative thyroid medication. I should like to think with him that that is an error, because it would give us an uncomfortable feeling that we had put into the hands of patients a preparation so potent as to bring up a subnormal rate of metabolism within a brief length of time from below normal to plus 43. I have not seen such a result, and I hope I shall not, because it would be disconcerting, and I hope Dr. Harrell will be able to prove in the course of time that that was an incorrect reading, rather than plus 43.

DR. C. J. ANDREWS, Norfolk: I think this is an extremely important subject that Dr. Harrell has brought out. Perhaps the most important part of it is that it calls our attention to it. It is a thing which is not written on the patient when you see

him, and if we keep it in mind we shall not be as likely to overlook it.

Not many years ago we were told that the reason for the lassitude of the South was hookworm. Now we are rather inclined to think that in some localities hypothyroidism is at least one of the causes of that condition. It seems to be a local condition to some extent, as we know there are certain areas in which it is not present to so great an extent.

I want to speak particularly of the parturient woman. Occasionally we find a woman who says she feels better during pregnancy than at any other time, and who has abundant energy. That is not the case in which we have to be bothered about the thyroid. Then there are others who do not feel as well; then others stop during pregnancy, sit still, do not do anything, get fat in spite of our appeals to take exercise, who become enormously fat and have a large baby and have a very difficult delivery. It does make an enormous obstetrical problem at times.

Dr. Harrell also called attention to the fact that this hypothyroid problem is four times as frequent in women as in men. Some of them are overweight. We used to believe that was always true, but now we know it is not. Some of these tired, weak women who have been to every clinic and every cult are hypothyroid. Then there is the question of sterility. I have had as many women come to me for that cause as because they are pregnant. Some of these are hypothyroid cases.

In regard to diet, I think the restriction of diet in pregnancy, low protein diet and low caloric diet, will produce a low metabolic rate.

DR. L. MINOR BLACKFORD, Atlanta, Ga.: These "low basal metabolic rates" are much more common in women than in men, as Dr. Harrell brought out, and achlorhydria is the rule. Another characteristic is that, after administering the dye, you rarely see a shadow of the gall-bladder. In contrast to true myxedema, these patients exhibit vasomotor instability, sweat on the least provocation, and tire easily. They are often nervous and, perhaps on account of the styles, thin. Many of these women go to the Mayo Clinic for thyroidectomy, which they do not get. However, there seems to be a tendency to subsequent development of exophthalmic goiter; I have seen such a girl become very ill with exophthalmic goiter but have a B. M. R. of only plus 20.

These patients are excessively fond of music; they will spend hours playing and go to almost any lengths to get to a concert. I think the college belle is usually of this type; she carries on many activities, is extremely vivacious, eats little, takes in a dance with a late date afterward for weeks at a time, and does a lot more than we could possibly do,—and is likely to wind up with a "nervous breakdown." I believe if you will watch such patients carefully, give them a generous diet with plenty of outdoor exercise and massive doses of psychotherapy, you can carry most of them along without thyroid medication.

DR. W. H. HIGGINS, Richmond: In spite of the exhaustive studies on thyroid diseases in the past few years, it has been surprising to me that our text-books have not emphasized this subject, which Dr. Harrell has brought out in his interesting paper. For a number of years we have been thoroughly familiar with myxedema, yet, undoubtedly, there is a clinical entity, which is called by a number of terms, such as larval myxedema, hypothyroidism, thyroid deficiency, etc. Undoubtedly that condition exists.

I was very glad that Dr. Harrell emphasized three points which are not brought out in the text-books

on the subject of true hypothyroidism—underweight, rapid pulse, and nervousness. Certainly those who have studied this type of cases have found that symptoms of that kind, which ordinarily we think are compatible with an over-active gland, undoubtedly at times occur in the under-active gland.

I spoke of true hypothyroidism. Dr. Harrell emphasized, I think, a very important point. Are these cases true hypothyroidism because they have a minus rate? Certainly there is a division right there on what cases we classify as arising from thyroid deficiency and what cases come from other conditions. Certainly, if you go into some of the sanatoriums for nervous disease and the institutions for the insane, you will find a vast number of cases of insanity and other types of functional neuroses which run a low rate but are not helped by thyroid therapy in the slightest. So I think we should be extremely careful about adopting a low reading alone as pathognomonic of hypothyroidism. But if your patient, in addition to his low rate, has some evidence of changes in the skin, dryness of the skin, sensitiveness to cold, falling of the hair, etc., I think we are justified in trying out thyroid therapy on him.

In a series of cases which I published on a previous occasion, diseases of the gall-bladder stood out far more prominently as associated factors in under-active thyroids than any other one disease. Likewise, in those cases upon which stomach analyses have been made in my office, hypoacidity was found in a very large majority of cases.

DR. HARRELL, closing the discussion: I wish first to express my thanks to the gentlemen for their kind remarks. There is one thing I want to mention. It is very hard to get an accurate reading in any child aged thirteen; we have to surmise somewhat. I had another child of thirteen who had a reading of minus 19 who was given a half grain of thyroid a day, and three weeks later had a reading of plus 7. Grain $\frac{1}{4}$ proved to be his dose.

In reply to Dr. Higgins' observation, a large number of my patients had gall-bladder symptoms also. I forgot to mention that. I thank you.

CONSERVATIVE TREATMENT OF PULMONARY ABSCESS.*

By EVERETT E. WATSON, M. D.,

and
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Salem, Va.

The process of healing of a suppurative lesion, regardless of the location in the body, is fundamentally the same. The principles of treatment are likewise essentially the same, except when certain anatomical peculiarities make it necessary to consider special procedures. Pulmonary suppuration, though long a matter of much clinical interest, still presents a difficult therapeutic problem. No matter what method or methods are employed the present efforts toward its solution leave much to be desired. It is so protean in its manifestations and has such a variety of complications, that there can be no set rule in regard to treatment and only a careful study of each case will enable one to outline a course of pro-

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

cedure. In general, treatment consists in removal of the cause if possible (foreign bodies), establishment of drainage, obliteration of cavities, general supportive measures, and, when necessary, removal of diseased tissue.

While some men advocate surgical drainage after a few short weeks, we have, for the past seven years at Mount Regis, endeavored to treat these cases conservatively. By conservative treatment we mean the employment of any aid other than radical surgery, such as rest in bed, proper diet, postural drainage, Alpine lamp, vaccines (both autogenous and stock), drugs, bronchoscopic drainage, and pneumothorax. When these remedies failed, we had recourse to surgery.

The series of cases presented here (28) embrace those which have been under treatment in the Sanatorium, as well as seven cases which were under our supervision but treated at home. Four of the number were chronic upon admission, i. e., of more than one year duration and having received prolonged treatment elsewhere. A large number of cases seen in consultation are not included because of the difficulty experienced in securing full histories and progress notes. Two cases showed tuberculosis in addition to the abscess, while one was complicated by angiosarcoma of the lung.

The longest time spent by any patient in the Sanatorium was fourteen months. The shortest time was one day. Three cases spent less than a week. One of these was discharged against advice as unimproved, but later recovered under home treatment, and two died. The average time spent in the Sanatorium was 116 days.

As improvement took place there was a universal gain in weight, the average being seventeen pounds for each patient. One patient gained nineteen and three-fourths pounds in one week. The maximum temperature on admission ranged from 99.2° to 104°, while the white blood count averaged 15,300 per cubic millimeter.

The right lung was involved in eighteen cases, the lower lobe being affected in eleven, the upper lobe in five, and the middle in two cases. Eight had a left lung involvement, the location being equally divided between the upper and lower lobes. Seventy-five per cent gave a history of one or more hemorrhages or recurring streaking for short periods of time.

ETIOLOGY

The etiological factors might prove interesting at this point: 30 per cent followed tonsillectomy; 17 per cent followed acute respiratory conditions; 8 per cent after extraction of teeth; 4 per cent each after lancing alveolar abscess and inspiration of foreign body. No cause could be found in 36 per cent of cases.

DRAINAGE

We consider postural drainage one of the most important aids in treatment. The literature on drainage by bronchoscope is rather barren. Myerson reported a series of six cases treated by this method and came to the conclusion that cases of long standing do not respond readily, but that this method is very desirable because of absence of marked discomfort, lack of danger when compared to radical surgery, and because institutional care is not required. He especially cautions the operator to recognize its limitations in time to refer impossible cases for proper surgical attention. Kernan was disappointed in the results obtained by this method of treatment. He believes that three treatments are necessary before any results are noted. The best results are obtained when the abscess appears as a result of tonsillectomy. Moore, of Jackson's Clinic, reports 25 per cent cures. Moersch reports nineteen cases in which he secured excellent results in sixteen. One of our cases was treated bronchoscopically after conservative treatment had failed. The etiological factor was a tonsillectomy under general anesthesia. The abscess was clearing up satisfactorily when the patient developed pneumococcus meningitis and died. This type of treatment is not applicable in cases of multiple abscess.

The method employed in postural drainage depends upon the location of the lesion. Frequent change of position is indicated in all cases. The routine in basal cases, as employed here, is to keep the foot of the bed elevated about twelve inches at all times. Ordinarily, if the patient's condition is such as not to contraindicate it, the best results are obtained by having someone support the patient so that the upper portion of the body is hanging over the edge of the bed in a vertical position, with head down. A pus basin is placed on the floor. This position is maintained for from ten to fifteen minutes and repeated three times

daily, always with assistance and under supervision. If improvement is manifested by lowering of temperature, decrease in the amount or offensiveness of the sputum, decrease in w. b. c., improvement in appetite and general condition, lessened cough, more favorable physical and X-ray findings, the probabilities of healing are good and this form of treatment should be persisted in. Even if there is no definite downward course and the condition apparently remains the same, this treatment should be continued for a reasonable length of time. Hedblom says that, in all cases which do not become steadily worse during a period of from one to two months, expectant treatment is indicated. Greer was discouraged at his results following postural drainage. We found this procedure all that was necessary in twelve cases. Of course, it was supported by Alpine lamp, rest, and other routine measures. These were acute cases resulting from tonsillectomy, following pneumonia, sinus infection, or oral sepsis.

PNEUMOTHORAX

Artificial pneumothorax, although exceedingly useful in some cases has a number of limitations and can be used only in a selected type of case. If used unwisely and in the face of certain contraindications it can do a great deal of harm. The chief application comes in the deep-seated, preferably hilum, abscess. Certainly, it should be used only after the greatest consideration and after postural drainage has been tried. To be successful there should be no adhesions over the site of the diseased process, as is often the case, and, which prevent proper collapse or closure of the cavity. It should not be attempted in abscesses located near the periphery because of the ever present danger of spontaneous rupture into the pleural sac with resultant empyema. Rich and Tewksbury report 80 per cent recovery with artificial pneumothorax. Jacobsen reports three cases all of which were treated successfully with artificial pneumothorax. Metteldorf in the Munich Clinic advises against it because of danger of mixed infection and rupture into the pleural cavity. He prefers pneumotomy, which is usually preceded by filling the cavity with paraffin. Greer made a favorable report in 50 per cent of his cases treated this way, but his good results were counterbalanced by a mortality of 50 per cent. Anderson prefers pneumothorax after

palliative treatment has been tried for at least a month.

Artificial pneumothorax was attempted in eleven of our series. Three were successful in that the collapse was complete, and permanent cure resulted from the treatment. Four were partially collapsed but later discontinued. These patients recovered, but in our opinion the collapse played little if any part in the results obtained. Adhesions prevented collapse in three and these died later following surgical drainage. A needle-track infection followed the fourth attempted pneumothorax, and surgical interference was necessary. This patient recovered following a phrenic avulsion.

VACCINES

We believe that in some cases with bacterial infection as the etiological factor an autogenous vaccine is helpful after the acute symptoms have subsided. The cultures are best obtained with the bronchoscope, but practically uncontaminated cultures can be secured by thoroughly cleansing the mouth and throat immediately before postural drainage. We believe this materially helped two of our cases. Dean B. Cole reports encouraging results from the use of Parke Davis and Company's Biological 340 Catarrhalis Immunogen.

DRUGS

McRae advises the use of creosote, in chronic cases, in full doses by mouth or inhalation. Kern uses drugs as the indications occur—tonics for a flagging appetite, or iron and arsenic for the secondary anemia. We have always endeavored as far as possible to avoid the use of drugs. A mild cough mixture is sometimes given to insure sleep, but there is always the danger of giving enough to suppress the cough reflex and thus interfere with drainage.

ALPINE LAMP

We are not sure as to the therapeutic action of the Alpine Sun Lamp, but experience has shown that it is beneficial. We use it routinely in all of our cases and think it is of great benefit.

Along with the lamp we give sun baths, and, when the natural sun is unavailable, air baths.

REST AND DIET

Rest in bed is undoubtedly one of the most beneficial therapeutic procedures. Over how long a period this should be continued is a

moot question, but in general this treatment should be persisted in for months after all active symptoms have subsided. It is certainly true that many so-called relapses occur because rest in bed was not enforced for a sufficient length of time. It was formerly thought that rest in a wheel chair was just as good, but we have not found it necessary to recourse to this, as we have been able to get our patients to the sun porch on the bed. Coughing occasionally precipitates vomiting, but not often. We do not make a practice of artificially stimulating the appetite because we have found that when the temperature returns to normal and the general condition improves, an increased appetite and gain in weight always follows.

OTHER MEASURES

Although this paper is concerned chiefly with the *conservative* treatment of abscess, it will be incomplete unless mention is made of several other therapeutic aids.

Twenty years ago the usual procedure was to needle an abscess for diagnostic purposes. We discontinued this following a sudden death from hemorrhage after such an attempt. The possibility of disseminating infection is also ever present.

One of our cases was an abscess of fourteen months' duration who was moribund on admission and remained at the Sanatorium only one day. He was transferred to a general hospital where surgical drainage was followed by death. One case had an apical abscess with adhesions, which had not responded to any conservative measures. He made a complete recovery following a thoracoplastic collapse.

Mann has reported two cases in which good results followed the intravenous use of mercurochrome. We do not believe that this has been tried enough to warrant serious consideration.

Lobectomy is advocated by some men when the abscess is multilocular from the outset or in those cases in which secondary abscesses develop after the first has cleared up, or in any case in which drainage or collapse is ineffective. This is an extremely hazardous procedure and the mortality is high. This should be attempted only as a last resort.

The procedure of needling the abscess and filling the cavity with bismuth paste carries so little chance of success and is so fraught with danger that we have never considered it.

To sum up the treatment: Twelve cases were given routine measures with postural drain-

age; pneumothorax was attempted in eleven cases; in five surgical drainage or resection was necessary (three of these followed unsuccessful pneumothorax); bronchoscopic drainage was used in one. Of these cases, seven were considered cured upon discharge from the Sanatorium; eleven improved while in the Sanatorium, and later completely recovered; five were unimproved upon discharge from the Sanatorium, one of whom later recovered, the remaining four terminating fatally; five died, either in the Sanatorium or the hospital to which they were referred for surgical treatment.

The cases herein reported are not sufficient in number to warrant arbitrary conclusions as to the most desirable methods of treatment. The fact that these case reports are taken from records covering a period of fifteen years is worthy of emphasis. Beginning fifteen years ago the first several basal cases were considered surgical and referred for operation as soon as the diagnosis of non-tuberculous pulmonary abscess was confirmed. The mortality rate was extremely high, only one being permanently cured. Of the upper lobe and hilum cases treated conservatively, all recovered. These were not referred to the surgeon, chiefly because the location of the abscess made surgical drainage notably hazardous. Taking our series as a whole the percentage of cures is not remarkable, but the point which we wish to stress is that, since we have been considering pulmonary abscess a medical disease with recourse to surgery a last resort, our mortality rate has been greatly reduced.

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Mount Regis Sanatorium.

DISCUSSION.

DR. DEAN B. COLE, Richmond: I have had the good fortune to see a number of abscesses treated by Dr. Watson and Dr. Robertson and wish to congratulate them upon their success. Like many of us, they get and see the most difficult cases; the easy ones do not reach them.

There is a triad consisting of early diagnosis, absolute bed rest, and postural drainage that applies to all acute lung abscesses. If that were followed by all doctors who come in contact with these cases we should have but few of the difficult chronic cases to treat, and there is certainly no risk in making an early diagnosis. The X-ray is an important factor in this. When you make your diagnosis, or before you make it, put that patient at absolute bed rest and keep him there, and put him on postural drainage four or five times a day, with the head over the side of the bed down toward the floor. Those are the essential measures.

As to vaccines, I think they do no harm and frequently do good. In our practice the sputum is collected from all cases and is invariably cultured. Sometimes we find unusual and interesting organisms. The use of the lamp is also beneficial in some cases and apparently does no harm in any. Bronchoscopy, where indicated, is most beneficial. Pneumothorax, as Dr. Robertson has brought out, is something not to be tampered with. I have seen a great deal of harm done by the injudicious use of pneumothorax in these cases. A small dose given at frequent intervals, with no effort to collapse the abscess cavity, is of value. Surgery should be kept for the advanced and chronic cases. Any procedure

that is used only in the hopeless cases naturally is going to carry a high mortality.

DR. ROBERTSON, in closing the discussion, showed some lantern slides illustrating the paper.

MODERN TREATMENT OF PULMONARY TUBERCULOSIS.*

By FLETCHER J. WRIGHT, M. D., Petersburg, Va.

PROPHYLAXIS.

It is said that for every known case of tuberculosis in Virginia there are ten unknown cases. Bearing this fact in mind, it behooves us to teach the laity the importance of, and the methods of, prevention.

They should be taught that no child should stay in the room of a known case of tuberculosis, or be fondled or kissed by such a person. An infant from birth should be guarded against exposure to this disease. If the baby is bottle fed, it should be given boiled or pasteurized milk, or milk from a tuberculin tested herd, if raw milk is used.

The next generation should be more health-wise than the present, since the children are being taught, in the schools, the importance of observing such health rules as urge them to keep everything out of their mouths except food and drink, the danger of the common drinking cup, etc.

It is assumed that a careful and painstaking examination is made before the active treatment of pulmonary tuberculosis is begun. The importance of locating and removing all foci of infection should be remembered, for often infected tonsils and abscessed teeth, or antrum disease will prevent recovery, or at least so overburden the patient, that his recovery is greatly delayed. The fact that tubercular patients may have concurrent diseases is sometimes overlooked.

PSYCHIC TREATMENT.

It takes tact and a good knowledge of human nature to know what or how much to tell a patient, when a diagnosis of tuberculosis has been made. In the vast majority of cases, a frank, honest statement is the best policy, always emphasizing, of course, the bright side. If the patient is the head of the family, he is entitled to know the facts, in order to arrange his business affairs. In advising sanatorium treatment, do not tell him he will be home in a few months, but insist that he leave this

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

to the judgment of the physicians in charge of the sanatorium. Much harm has been done, and the profession often criticized when the doctor tells the patient "You'll be all right in a few months!" A physician needs not only to treat the disease, but to remember that each patient must be considered individually, studying him from every angle.

REST.

In the successful treatment of tuberculosis, rest is by far the greatest factor. By rest is meant BED rest, complete or modified, according to the patient's condition. In my opinion, any one who has an active pulmonary lesion sufficient to be detected by physical examination should be put to bed for at least six months. This means twenty-four hours in bed, with or without bathroom privileges, according to condition of patient. Here, too, the individual's temperament may sometimes prevent us from doing what is really best for him. If he cannot be made to see the importance of bed rest, and is rebellious, it may be best to allow a little more liberty, provided his maximum daily temperature is not above 99.6° F. Bed rest, with as nearly complete physical and mental relaxation as possible, which is of such vast importance, cannot possibly be secured until the physician has won the confidence of the patient by showing real interest and sympathy.

To lie flat in bed, with one or two small pillows under the head, diminishes respiration (since less oxygen is needed when at rest), lessens the cough, slows the heart action, and improves the digestion. Since less food is required to support the body, the patient puts on weight. After a variable length of time, according to the progress made, rest can be modified to suit the individual needs.

While it is possible to carry out the treatment at home, it is *much* better to insist upon sanatorium care, where the patient is educated as to methods of disposal of the sputum (which means that he should never expectorate in anything but a sputum cup which is prepared for the purpose), suppressing cough, use of gauze over mouth and nose when coughing or sneezing, etc. If the treatment cannot be continued longer than six months at a sanatorium, the education received while there may save many lives.

FRESH AIR.

That fresh air in the open, preferably on a suitable porch, is of much importance in the

treatment of tuberculosis, is generally conceded. The porch should be arranged so that it has a southern exposure, being protected by windows (which are left open in mild weather) on the east and west sides. The porch should not be less than 16 feet wide, high pitched and well screened with fine mesh wire.

A high altitude is no longer considered necessary, for the results obtained in well conducted sanatoria in low altitudes compare most favorably with those in a higher altitude. Certain types of tuberculosis may probably do better in a high, dry climate, but these are exceptionally few.

In very cold weather it is sometimes hard to keep warm on a porch, but with good thick mattresses, heavy paper between the springs and mattress, or preferably a double blanket between the mattress and bottom sheet, and with heavy, all wool blankets which are full length and wide, one may keep warm in any ordinary weather. In extreme weather, at a sanatorium, it is permissible to be "pulled in," leaving the double doors to porch open. A stocking cap and woolen socks are needed in very cold weather. A dressing room for every two patients is provided in all sanatoria, so that the bed patients can be pulled in for meals, baths and to receive visitors, and ambulant patients may use it as a dressing room.

DIET.

The diet should be well balanced, containing a sufficient number of calories and vitamins. It is no longer thought wise to "stuff" patients. Advise drinking six glasses of milk a day, or certainly four, and eating anything else desired, provided there are no contraindications.

Eight glasses of water should be taken daily, one or two before breakfast after the mouth toilet has been made. Raw eggs are not usually used at a sanatorium, since soft cooked eggs are much more digestible. Milk, however, is much richer in food products. The vegetables and fruits furnish the necessary vitamins and minerals, and help to relieve constipation.

EXERCISE.

There is a time for exercise for patients who have no temperature and have shown satisfactory gain in weight. Those who have been bed patients are first allowed dressingroom privilege once a day, then twice, and later as often as necessary, provided they are doing

well. Later, a sanatorium patient is allowed to go first to one meal a day, and the other two are added according to his condition. This is kept up for a variable length of time, when finally he should be allowed a short walk of fifteen minutes in the morning, for two weeks. After this, if there is a gain of weight and no increase in his symptoms, he is allowed exercise for fifteen minutes also in the afternoon. This gradual increase is kept up as long as no untoward results are seen, and the improvement is satisfactory. Even when the exercise has been increased to three or four hours a day, the patient is required to be *in bed* the rest of the time, except when at meals.

At most sanatoria there can be found some light work to be done, which will help to pass the time and make the patient better satisfied. Never try to "rush" exercise.

ARTIFICIAL PNEUMOTHORAX.

In unilateral pulmonary tuberculosis, or bilateral tuberculosis, with minimal lesion on one side, artificial pneumothorax is a life-saver. However, following the suggestion of Dr. Gerald Webb, of Colorado Springs, later emphasized and enlarged upon by Drs. Gekler and Weigel, of Albuquerque, I am in favor of trying out the postural treatment of putting the patient on the affected, or side most involved, to be kept in that position as much as possible. Drs. Gekler and Weigel go a step further and have a hair mattress made, three inches thick, ten inches wide and twenty inches long, which is placed under the arm of the patient so he is encouraged to lie on that side. The length of the mattress is sufficient to enable him to change position slightly.

As there is a possibility of obtaining a satisfactory result without pneumothorax in a considerable number of cases, there could surely be no harm done by first giving postural treatment a trial. There are cases with such dense pleuritic adhesions that artificial pneumothorax cannot be given, and in such cases postural treatment should be tried. Dr. Webb states that when a patient is first put on the side, respiration is increased for a short time only, after which there is a marked decrease in the respiration rate, thus allowing the lung greater rest and consequently a greater opportunity for the lung to heal by both absorption and fibrosis, frequently closing cavities. I have personally used this method with some apparent success.

Artificial pneumothorax should certainly not be attempted by one who is not familiar with the indications therefor, the technic, and the instrument used. Great care should be used in the amount of air injected and the frequency of the injections. It is perhaps best to begin with 150-200 c.c., repeating every two to fourteen days as indicated by fluoroscopic examinations. In some cases, on account of adhesions, a partial collapse only can be obtained, and then a phrenicotomy will so raise the diaphragm that collapse will be obtained. I shall not go into the technic of pneumothorax except to say that it can be done without pain by the use of a local anaesthetic.

Since thoracoplasty comes under the head of major surgery, I will not take it up here, except to say that it has a great field for good, in otherwise hopeless cases.

HELIO THERAPY.

Heliotherapy has a place in the treatment of tuberculosis, but has been proved to be most useful in bone and glandular tuberculosis, and in tubercular peritonitis. When there is no fever, evidence of activity, or tendency to hemorrhage, it may be cautiously tried in pulmonary tuberculosis, but the pulse and temperature chart should be carefully watched. Sunlight stimulates the endocrines, improves metabolism, increases the erythrocytes and improves the appetite and digestion. In the absence of sunlight, or rather the facilities for the convenience of sun baths, ultra violet light, if used cautiously, and only in suitable cases, is beneficial. Heliotherapy in active pulmonary disease cannot be too strongly condemned.

TREATMENT OF SYMPTOMS AND COMPLICATIONS.

Cough.—Much can be done by the patient himself in suppressing the desire to cough. If by persistence the cough can be controlled, spreading of the infection is lessened, and the lung gets more rest. It is remarkable to note how soon a disagreeable cough will subside by absolute rest in bed. If, however, these means do not control the cough sufficiently to allow rest, codeine, grs. one-sixth to one-fourth, in one drachm of elixir terpin hydrate may be given every three or four hours for a limited time. Morphine acetate, grs. one-thirtieth, in elixir terpin hydrate, may be used instead, if a stronger sedative is needed. It is well always to remember the danger of the narcotic habit, and for this reason to use all opiates

most cautiously, since there is more danger in the use of these drugs in a chronic disease like tuberculosis, than in an acute infection of the respiratory tract. A stimulant expectorant should never be used if there is a tendency to hemorrhage.

Hemoptysis.—Even blood tinged sputum should not be treated lightly. A few days of absolute rest in bed and perhaps a cough sedative, such as codeine, may be all that is necessary. It is also necessary to prevent constipation and straining at stool. In a hemorrhage of half ounce or more, the pillows should be removed, and the patient made to inhale an amyl nitrite pearl, three to five minims. Feed crushed ice for cough. If the blood pressure is over 100 systolic, sodium nitrite, grs. 1, should be dissolved under the tongue every four hours as long as the systolic pressure remains over 100. If there has been a high pressure, it should not be reduced too much. The bowels should be kept open with a daily dose of salts or oil. Give codeine, grs. $\frac{1}{4}$, to be repeated as needed. Calcium lactate, grs. 10, should also be used before meals for three days. Stop all citrus fruits, and hot drinks, and give only soft diet. If the hemorrhage persist and cannot be controlled, and if the site can be located (usually by the gurgling sounds on one side), pneumothorax may have to be done. Hemorrhage cases should be kept in bed for three weeks after all signs of blood in the sputum have disappeared. While hemorrhage, *per se*, is seldom fatal, inspiration pneumonia often follows, and the disease spreads. It is not thought wise to use morphine in these cases. Some authorities prop hemorrhage patients in a half reclining position, claiming this does not raise the blood pressure. If this could be proved to be true, the patient would be more comfortable in this position.

LOSS OF WEIGHT.

In a patient whose weight is not above standard, loss of weight can usually be prevented by more rest in bed (or at least restricted exercise) and possibly by advising a change of diet, or one more varied.

Night Sweats.—Night sweats can often be controlled by alcohol rubs and sponge baths. It is sometimes necessary to give atropine sulphate, grs. 1/100 to grs. 1/150, before bedtime. Elimination should be kept up by the use of laxatives and plenty of water.

Fever.—Fever is treated by strict bed rest. Sponge baths, alcohol rubs, and an ice-cap to head may be used, and the patient should be kept on a soft, or liquid diet.

Constipation.—It is best to correct constipation by a proper vegetable and fruit diet, together with the use of bran, and an abundance of water. Mineral oil in one ounce doses once or twice a day, or cascara may be used.

Digestive Disturbances.—An upset digestion may sometimes be relieved by having the patient fast for twenty-four hours, then using a liquid diet for several days, gradually resuming the usual diet. A large percentage of tubercular patients have a hypochlorhydria which is relieved by dilute muriatic acid in doses of fifteen to twenty minims, in a glass of water to be sipped with meals. A gastric analysis is frequently necessary to determine whether an acid or alkaline should be used.

Enteritis.—Tubercular enteritis is usually a terminal condition, complicating a far advanced pulmonary disease. The diet should be bland, consisting of boiled or citrated milk, strained, well cooked cereals, soft toast, baked potatoes, gelatine, boiled custard, or ice cream.

It is believed that general body radiations with the sun lamp, using intensive applications of the rays to the abdomen, is of benefit. Calcium lactate, grs. 10, before meals, is advised.

Tubercular Laryngitis.—The patient should be put "on silence" as soon as the larynx shows evidence of involvement. The use of pencil and paper, instead of using the voice in any way is advised. Rest in bed, with absolute rest of the larynx by silence, will relieve mild cases. In a larynx not ulcerated, a spray of 1 per cent guaiacol and menthol, in oil of sweet almonds, seems beneficial. An aqueous solution of formalin, beginning with $\frac{1}{2}$ of 1 per cent, applied directly to the larynx twice weekly, gradually increasing the strength till six or eight per cent strength is used, seems to do good. In ulcerative cases, the electro-cautery, cautiously used, gives better results than any other treatment. It is often necessary to use an anaesthetic spray to the throat before meals, on account of the pain induced by deglutition. A 2 per cent butyn solution is fairly effective. With the treatment now advocated, tubercular laryngitis, even if occurring in far advanced cases, as a usual thing is not so serious as it once was.

Pleurisy.—Pleurisy, with or without effusion,

is a frequent complication of pulmonary tuberculosis. The pain is often relieved by a tight binder around the chest. Painting with iodine, or rubbing with chloroform liniment also helps. Adhesive plaster strapping immobilizes the side, but causes as much discomfort, frequently, as does the pleurisy, and so for this reason is rarely used. Aspirin or codeine, if necessary, may be given. If effusion takes place, the fluid should *not* be touched unless the pressure becomes too great, when only a small amount should be drawn—enough only to relieve the symptoms. It is believed that the occurrence of the fluid is nature's effort to put a diseased lung at rest.

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49 South Market Street.

DISCUSSION

DR. W. E. BROWN, Sanatorium: There is nothing of any material interest that I can add to Dr. Wright's paper, but I made a note of one or two things that I should like to emphasize.

We know that absolute relaxation, rest in bed, is the foundation stone for recovery from this disease, and whenever in doubt as to whether the patient should be gotten up out of bed and put on exercise you would do best to err on the side of rest.

Dr. Wright has gone somewhat into detail on the preparations for sleeping in the open air. It is necessary to know these details, for if you put a patient on a porch and proper preparation has not been made you are apt to do the patient a good deal of damage by getting him severely chilled.

I can not say that I altogether agree with him on the question of posture. There is no question in my mind that the side on which the patient lies does the most breathing, due to increased action of the diaphragm. The diaphragm of the upper side becomes more or less fixed in its position and its excursion is materially lessened, whereas on the lower side the excursion of the diaphragm is nearly doubled. If the disease extends into the base of the lung, I would certainly not put the patient in such a position that it would work the diseased organ more than necessary. Therefore, if postural treatment is to be carried out, and the base of the lung is involved, I think that phrenic evulsion

should be done. I used to insist, in cases of pulmonary hemorrhage, that the patient lie on the affected side. In very many instances the cough was increased, and sometimes there was another hemorrhage. The patient would argue that lying on that side made the cough worse, and I would argue that it was imagination, but I have come to the conclusion that the patient was right and I was wrong.

DR. J. BOLLING JONES, Petersburg: No principle has been added to the treatment of tuberculosis in thirty-five years. You have effected those principles, but nothing new has been added. It was my pleasure to see the first tuberculin sent to America, to Dr. James Whitaker. He had been a student of Koch's. During the year that followed he had tuberculin given to everybody in the ward, regardless of what was the matter with him. So I learned my lesson about tuberculin.

When I began practice, the first two cases I saw were tuberculosis. The greatest comfort in the world to me today is that both are living today, both are healthy, both have raised healthy families. It is a great comfort to me when I diagnose or recognize tuberculosis. Naturally, they are depressed; it is a thing that requires readjustment of their lives; but we can give them much encouragement.

DR. WRIGHT, closing the discussion: I knew Dr. Brown's attitude on posture before I wrote this paper, so I am not at all surprised to hear his statement.

The only reason—or, rather, the main reason—I had for reading this paper is that I do not believe the average man realizes the importance of a prolonged rest in tuberculosis. About the time a patient gets fat and begins feeling good and as if there is nothing in the world the matter with him (to my mind, a false convalescence), he feels that he ought to get out and go to work. If anything I can say will convince anybody that that is one of the most dangerous times, and the very time when he needs to hang on longer, I shall be glad.

INSTRUMENTS OF PRECISION ESSENTIAL FOR CORRECT DIAGNOSIS AND TREATMENT OF CHEST CONDITIONS.*

By DEAN B. COLE, M. D.,

and
EDGAR C. HARPER, M. D.,
Richmond, Va.

Since the discovery of the stethoscope by Laennec in 1819, the clinician has been constantly seeking other instruments of greater precision which may be advantageously used in chest diagnosis. This instrument revolutionized the knowledge of thoracic pathology through the easier detection of heart murmurs, rales and other adventitious sounds and permitted their correlation with disease entities and necropsy findings. It cannot, however, always be depended on even in the hands of the most skillful to show the minute changes so necessary in diagnosis of early chest diagnosis.

Laboratory studies by Pasteur and Koch in the latter half of the nineteenth century gave

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a boon to physicians in the study of lung disease, stimulating their interest and increasing their desire to perfect other methods of arriving at accurate and definite differential diagnosis. The discovery of the tubercle bacillus in 1882 by Robert Koch put the microscope into the hand of the clinician and permitted him to find the newly discovered organism in the sputum of his patients. When the bacillus could be demonstrated, precision of diagnosis was unquestioned.

In 1893 Roentgen developed his ray, not realizing that in a quarter of a century chest diagnosis and treatment, especially lung disease, would receive an impetus scarcely equalled in the previous history of medicine.

Mackenzie contributed much to the diagnosis and treatment of heart disease. To him we are indebted for the development and use of the polygraph and sphygmograph, forerunners of the electrocardiograph. In recording the rate, rhythm, and condition of the myocardium, the electrocardiograph far surpasses any other instrument. It gives a graphic picture of cardiac irregularities that cannot otherwise be comprehended. Each wave conveys graphic messages that may be of the utmost importance in diagnosis and prognosis.

The routine use of the sphygmomanometer for diastolic and systolic blood pressure measurements will frequently direct our attention to renal and cardiac sclerosis and cardiac hypertrophy.

Basal metabolism determination, so essential in diagnosis and treatment of thyroid disturbance, is frequently most helpful in differentiating a border line thyroid toxicity from an early tuberculosis or other obscure infection.

The ophthalmoscope for studying eye grounds is too little used. No cardiovascular examination is complete without it for here frequently the first manifestation of arteriosclerosis is found.

Stereoscopic films of the chest in suspected pulmonary disease have proven so useful that it is now a routine measure in the hands of those who wish to make a complete and accurate diagnosis. The earliest forms of tuberculosis and other lung diseases frequently show very slight changes on physical examination and their interpretation is often very difficult. Properly taken films, however, will almost invariably show the earliest exudative lesion before the advent of rales or the destruction of

lung tissue. Serial plates taken during treatment are often better guides to the patient's progress than are symptoms and physical signs. Heavy lower lobe bronchial markings point an accusing finger to the upper respiratory tract and demand thorough examination of nose, throat and accessory sinuses.

Fluoroscopy is one of the best and least technical methods of examination of the thoracic contents. Its usefulness in pulmonary disease is limited to rather gross changes but it is invaluable in certain conditions. Its routine use in artificial pneumothorax is so important that we consider it a part of the procedure. Every patient is screened before air is given and occasionally we have patients come in midway between refills for check-up. This is a necessary precaution where the pneumothorax patient is doing full time work. We have learned to our sorrow that mediastinal shifting, undue stretching of adhesions, and small amounts of fluid are frequently not manifest on physical examination, nor are we able to judge the amount or area of collapsed lung by ordinary examination. By means of the fluoroscope, visualization of bronchial dilatation or obstructions after the administration of iodized oil, either in diagnosis or treatment of these conditions, is possible. The presence of a pleurisy with effusion can be differentiated from consolidation of the lung. Dense infiltrations in the lungs, caused by tuberculosis, neoplasms, abscess, and unresolved pneumonia, may occasionally be diagnosed, but for the most part stereoscopic films are essential. Early pulmonary tuberculosis cannot be diagnosed but frequently a lagging apex, a sluggish moving diaphragm or areas of emphysema will herald the approach of clinical disease. Opaque foreign bodies in bronchi or trachea can usually be seen and non-opaque ones suspected by areas of emphysema or atelectasis distal to the obstruction. Mediastinal supuration, neoplasms and esophageal or tracheal stenosis can be seen by use of some radiopaque medium. Its use in cardiovascular examinations is extremely important. With it we are able to visualize the aorta, heart and mediastinum. By means of the orthodiagram we are enabled to study graphically greater detail and accuracy in cardiac enlargement.

A seven foot plate is often helpful in determining measurements and contours for leisurely studies and permanent record for future comparison.

Aortic insufficiency is suspected by widening of mediastinum and marked enlargement of left ventricle to left, giving the so-called shoe shaped heart. Mitral stenosis causes enlargement of the left auricle and pulmonary conus. Mitral insufficiency produces enlargement of left auricle and generalized enlargement of entire heart. The characteristic lesion of hypertensive heart disease is enlargement of left ventricle, the degree depending on severity of sclerosis. Aortic dilatation shows shadow of arch to right of sternum and appears thickened and widened. An aneurism is seen as a pulsating mass arising from the aorta and is usually not difficult to diagnose unless it is filled with a clot which prevents its pulsation.

Pericardial effusion gives a tremendous enlargement of heart which is roughly triangular in shape with its base down; sometimes the outline of the heart may be seen within the shadow; generally there is some obliteration of the acute angle formed by right border of the heart and diaphragm.

The electrocardiograph unfortunately has not won the popular favor as did the X-ray. It too has an important message for the alert physician, and its constant use will sharpen the diagnostic skill of the cleverest. Too often a loud musical murmur has so biased the mind and perception of the examiner that the all important and essential factor of cardiac reserve has been forgotten. No longer can we make the convenient division of those who need rest and digitalis and those that do not. We have in the galvanometer an instrument of precision that is exceedingly helpful in diagnosis, therapy control, and prognosis. This is especially true of those diseases that are most difficult to diagnose by ordinary methods. The alarming increase in cardio-vascular disease in the last decade should lend impetus to our efforts to prevent and cure this important group of diseases.

No instrument, however precise, will ever be able to supplant a careful history and a painstaking physical examination in diseases of the cardio-vascular or pulmonary system.

Professional Building.

DISCUSSION.

DR. DEAN B. COLE, Richmond: I have very little to say regarding this paper. As you have already discovered, there is nothing new that Dr. Harper attempted to bring out; he endeavored, rather, to call your attention to the systematic use of some of the procedures that many of us have at our disposal. I think too frequently we are inclined to

think that the X-ray man or some other is going to make a diagnosis for us. If all of us would use the facilities that we have and use them systematically and study our cases very carefully, I think we should make many fewer mistakes in differential diagnosis. It was with this in view that this paper was written.

SOME PHASES OF RHEUMATIC DISEASE.*

By T. DUCKETT JONES, M. D., Boston, Mass.

There is little doubt but that the term rheumatism is one which, alike to layman and physician, conveys a sinister picture, the results of which, should the disease progress to its limit, means either hopeless crippling or death itself. There are cures, at times, almost miraculous, but more often there is the dark outlook, which we are often unable to alter, despite the variety of procedures which we attempt or the endless amount of time and thought which we may give to the individual case. During the past ten years or so, we have become "rheumatic minded." The study of the varied factors involved in the arthritides is being pushed with all possible speed, as our knowledge is increased in bacteriology, immunology, pathology, metabolism, nutrition, and general medicine.

It is my intention to consider very briefly several phases of rheumatic disease, with the term rheumatic limited entirely to the syndrome clinically classified as Rheumatic Fever, Sydenham's Chorea, and at least a certain percentage of cases of tonsillitis, with the consequent and subsequent heart damage. These cases are an enormous group, responsible for the far greater number of deaths from heart disease in individuals under forty years of age.

Much clinical information is at our finger tips. The typical case of Rheumatic Fever or Articular Rheumatism presents a picture familiar to each of us, though it is not thoroughly common today. The age incidence and climatic, seasonal and geographic characteristics have received widespread attention. The resulting cardiac damage with the various types of heart irregularities, mitral and aortic valvulitis, and pericarditis, with death at an early age, is recognized by all well-informed physicians. These things and others we know, but concerning many vital points we are much in the dark. For instance, why do two patients, one with

*From the Medical Clinic of the House of the Good Samaritan. Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

severe mitral stenosis and the other with but little valvular disease, die with the same signs and symptoms? What is the cause of recurrences? Is there ever a period when the disease is inactive? What nutritional, metabolic, and racial factors are present? Why are we unable by known immunological reactions to gain some index of the patient's status at any given time in the disease? Granting that streptococci, probably varied in type, possess antigenic properties, is the clinical improvement, often seen, a process of desensitization to the streptococcal antigen or one of neutralization (toxin-antitoxin reaction)? When we know some of these and other factors, and only then, will we begin to get an idea of this complex syndrome. The phases of rheumatic disease which I should like to bring to your attention are not the result of laborious laboratory procedures, but merely clinical impressions, the result of observing over a period of time a large number of children and young adults in the various stages of the disease. I have no new ideas or data to present, but merely wish to emphasize recognized lines of thought.

1. The Question of Active Infection:—

In many diseases it is difficult to determine just when the process has subsided and it would be wise to allow the patient up, and to return to his usual mode of life. This is doubly difficult in a disease where there is no known specific etiological agent, and where we have no measure of the immune processes and no proven knowledge of the means of the subsidence of the infection. An acute case of polyarthritis, with fever and leucocytosis, responds to rest and salicylate therapy, has no recurrence, the fever and leucocytosis subside, and no evidence of heart damage develops. We let him up. He does well, but a month or two later we are amazed to find that he has developed evidence of slight valvular disease. In other words, the exudative process present had affected the endocardium, and with improvement and the natural process of repair the proliferative mechanism has resulted in definite and permanent valvular heart disease. Should he have been kept in bed longer? What criteria tell us when the exudative stage ends and the proliferative begins? There are no absolute criteria. Each case almost seems to be a law unto itself. And yet, we feel safer subjecting patients to long periods of bed rest,

and they seem to do better clinically, if we err on the side of the rest rather than activity.

The monocyclic polyarthritis (Swift¹) is not so difficult, but the polycyclic type troubles us sorely. The atypical types also cause concern. In New England, rheumatic heart disease represents about 40 per cent² of all heart disease. In Virginia, the percentage is about 20³. The further south one goes, apparently the lower the number of such cases. In addition to the decrease in the number of cases of the rheumatic types of heart disease, there is a decided decrease in the number of cases having Rheumatic Fever. In fact, it is rather surprising that the rheumatic types are as high as 20 per cent in Virginia. Rheumatic Fever is not common, and Chorea is still rarer. The number of cases of Rheumatic Fever treated at the Massachusetts General Hospital is today about half what it was ten years ago, and yet the number of individuals with rheumatic heart disease remains high. I do not presume to explain this discrepancy, despite it being a very real one. We are all familiar with the cases with vague joint pains, often growing pains in children, cases that later develop evidence of heart damage. It is this group as well as those who several months before had definite rheumatic infection, that we must struggle with, and struggle in more ways than one, for, even after we have come to the conclusion that the patient should be in bed longer, it is often all but impossible to make him or his family see the importance and reason in such therapy. There are several factors which, should any one of them be present, mean undoubted continuous infection.

a. Fever: A low grade fever may be run for months, and during its persistence the patient should be kept as quiet as possible. As slight a rise in temperature as 99.4° (mouth) or 100.4° (rectal) must be considered as probably significant. It has also proven a safe rule to have each patient stay in bed several days who shows an elevation in temperature, however remote its cause.

b. Leucocytosis: While varying between 14,000 to 20,000 or higher when acutely ill, the white blood count tends to remain at a slightly elevated level during low grade infections. A white blood count between 12,000 and 15,000 in absence of other findings is incriminating evidence, and its return to normal a fair, though not invariable, guide to therapy. Swift⁴ has

pointed out the fact that relapses or recurrences are usually heralded by a rise in white blood count curve.

c. Weight: Of value in those cases who are underweight is their weight curve. Wide daily variations occur, but once there is a steady continuous gain in weight, the patient usually improves. This may occur only after the patient has been made to stay in bed for a number of months, at which time the temperature curve often seeks a slightly lower level, the white blood count may decline, and the weight increase at the rate of two to four pounds a week.

d. Pulse Rate: Often it is difficult to consider the pulse rate of value, unless the patient is in bed and it be possible to rule out neurogenic and effort syndrome influences. I have not found it very helpful, there usually being little question of infection, where the pulse rate is significantly increased.

Of the host of other factors which may be mentioned are nose bleeds (which we find occur very commonly, without trauma, during low grade infections), pericarditis, pleuritis, vague gastric disturbances, anemia, nodules, and a small number present respiratory charts which show rates between 35 and 50 respirations per minute over a period of months, without other conspicuous evidence of infection. In addition, there are those cases recovering from severe infection, and even heart failure, who, eight or ten months later, show no more evidence of infection than pallor, possibly a very slight anemia, and a lack of gain in weight. This latter type is the one resulting in the most conspicuous clinical improvement, should it be possible to restrain their activity sufficiently long. It may mean a question of well over a year in bed.

I should like to add the warning that there is something far more important than the presence of the various diastolic or systolic murmurs when an individual afflicted with the rheumatic syndrome consults us. These findings with perhaps heart size have been much over-emphasized. The functional capacity of the individual's heart and the presence or absence of cardiac failure are, of course, important, but of prime importance is the decision after careful consideration of whether or no there is any evidence of active infection.

2. Chronicity:—

Of the chronicity of rheumatic disease we are well aware. The number of years that a

slowly progressing rheumatic type of mitral stenosis carries on is well recognized. On the other hand, we see those cases who go continually down hill once the process has become established. We know little of what is going on in the heart from the time the patient has rheumatic fever until he dies from congestive heart failure 15 to 20 years later. In some way the disease progresses, until the damage has reached such a degree that the heart can no longer take care of the body needs, and failure results. This damage is not, at present, measurable with any of the clinical or pathological technique which we know of. It would seem likely that what happens is that there is a frequent, perhaps even continuous low grade infection present. The definite recurrences with joint pain, fever, etc., are common, and yet there are many cases showing little evidence of infection, especially in the South, who exhibit the fact that the disease is a progressive one. I have tried to bring out the important facts relative to evidence of infection, and, but for lack of time, I might profitably give the clinical records of a few cases who have had to be restrained at rest for long periods of time, but cases that finally responded and whose subsequent clinical improvement have justified the period of absolute invalidism. In this respect, as well as others, the disease is closely parallel to tuberculosis.

Do not become too discouraged about the difficulty of giving these patients the necessary months of bed rest. In private and general practice, it is extremely difficult to obtain for these patients the best possible therapeutic measures. In the more important cases there is often little evidence of infection, and the family and patient are restless for activity, and, as a rule, are not prepared for the economic situation. Should another physician see the patient, who is not thoroughly conversant with the evidences of low grade active infection, the goose is usually cooked, for the family will often welcome his advice. Nevertheless, the fight is worth while. Long bed rest under as hygienic conditions as possible, with well-balanced diet (for as yet we do not know the role of nutrition in these cases), and probably actinic rays, are the best known therapeutic measures, and we are fully justified in seeing that each patient receives them, despite the individual difficulties.

3. Salicylate Therapy:—

The practice of giving large doses of salicylates in active rheumatic infection is a general one. There is no question about the almost specific effect which the drug exerts upon the exudative phenomena of the disease. The subsidence of fever and the comfort of the patient, with the resultant clinical improvement, are striking, and renders our faith in the drug, in its various forms, as well founded. There are, however, definite dangers in its improper use, and of these I should like to speak briefly. There has grown up a practice in the past few years of giving salicylates in moderately large doses over a long period of time. Some observers have even thought that it might be used as a prophylactic in the prevention of recurrent rheumatic infection. These individuals are, I believe, off on the wrong foot. Swift^{5, 6, 7} has brought out some very good points concerning the role of salicylates. He has shown that in animals rendered sensitive to non-hemolytic streptococci there is a depression of the formation of immune bodies, when salicylates are given coincidentally. In addition in animals in which he has produced arthritis, the number of severe joints developing is decreased by salicylates, but there is found an increased number of mildly inflamed joints. In serum disease in humans, the use of salicylates early after the inoculation of the horse serum decreases the number exhibiting polyarthritis, but, at the same time, there is probably a reduction of the immune processes. While neither the serum disease in man nor the animal experimentation exactly duplicate the rheumatic disease in humans, there is sufficient relationship between them to warrant our consideration.

Certain processes occur when we give sufficiently large doses of the drug. Should the individual have a very acute illness, the administration of the drug to the point of salicylism results in a return to normal of the temperature, and a reduction in the white blood count from 14,000 or 20,000 to normal. Should there be a rapid clinical improvement, cessation of the drug would result in little difference. The white blood count in these individuals usually remains down. However, in the continuously active, low grade infections, the white count may return almost to its previous level and there may be a slight rise in fever. Salicylates over long periods of time in these individuals give us a false sense of security. I have fre-

quently seen a definite joint swelling result, along with the coincident rise in leucocytes, in patients who had been on the drug from two or three to six months. In cases, in which a test temperature record is being made to determine the presence or absence of active infection, and a white blood count is being made for the same purpose, be careful to see that the patient is not receiving salicylates, or else the tests are of no value. Since it is important that we know when there is infection present, we should not mask the possibility of symptoms or findings occurring which would tell us whether or not the patient should be having bed rest.

I do not wish to be misunderstood concerning this question. I do not decry the use of large doses of salicylates in the acutely ill; on the other hand, I strongly urge them. At the same time there seems some basis for the belief that they do not cause their improvement by increasing the immune processes, but rather depress them. Whether or not any anti-rheumatic drug depressing antibody formation also depresses the potency of the responsible antigen is not known, but it is possible. However, I do say that the drug should be used to make the patient more comfortable, and as it does not cure the disease, as has been pointed out by Swift,⁸ its withdrawal is advisable as soon as practical, in order to avoid a false sense of security and the masking of important symptoms.

SUMMARY.

Some of the evidences of infection in rheumatic disease have been outlined, together with the importance of the recognition of the fact that these evidences of infection occur over a long period of time, and emphasis is placed on the necessity of giving these cases long bed rest. There are also included some notes on salicylate therapy.

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25 *Binney Street*.

DISCUSSION.

DR. J. EDWIN WOOD, JR., University: It is true that any of us are able and anxious to make a diagnosis in a frank case of inflammatory rheumatism. On the other hand, I think we are still a little backward in the South in paying attention to growing pains in childhood, to the dangers of tonsillitis, and perhaps to certain cases of pleurisy. We have just begun to scratch the surface in the clinical manifestations of so-called rheumatic infection. Knowing that mitral stenosis has no other causes than rheumatic infection, we are evidently missing the early part of the disease. This is particularly true, I believe, in the South, where a typical textbook picture of inflammatory rheumatism is unusual. With a twenty per cent rheumatic heart-disease ratio in this State, this infection does present a problem. Further, when you remember that the great majority of rheumatic cases occur in childhood, cutting our young ones down, giving them a short and unhappy life, it is more than a twenty per cent problem. I think our attitude in the South at present should be a little bit more than suspicious of the manifestations Dr. Jones has mentioned; and, if we err on the side of resting the patient too long in bed and being a little too cautious, maybe we have done the right thing and nothing else. After all, until we clearly understand the mechanism of the infection the best we can do is to be careful.

We are indebted to Dr. Jones for coming down from Boston to give us this stimulating and yet pleasantly conservative discussion of rheumatic disease.

LUDWIG'S ANGINA: CASE REPORT.*

By E. G. GILL, M. D.,
and
W. R. WHITMAN, M. D.,
Roanoke, Va.

Ludwig's angina is characterized by an acute spreading infiltration of the soft tissues starting in the floor of the mouth and submaxillary region which binds all the structures into a hard, board-like mass. The space¹ into which the infection is localized has for its floor the mylohyoid muscle, its lateral walls, the bodies of the mandible, its posterior wall, the muscles which unite to form the base of the tongue and the deep part of the submaxillary gland, and, as its roof, the tongue and the mucosa covering the floor of the mouth.

ETIOLOGY: The most frequent starting-point² of the infection is from a suppurating submaxillary lymph node or a collection of pus in the floor of the mouth. The general opinion is that this form of infection is usually due to streptococcus.

PATHOLOGY: The process³ is essentially a cellulitis. The fact that pus is not found in

many cases on incision does not prove that there is phlegmonous swelling without pus formation.

SYMPTOMATOLOGY: The onset³ is marked by difficulty in talking and swallowing, pain in the floor of the mouth and salivation. Elevation of the tongue with redness and edema of the mucous membrane over the involved area is characteristic. The swelling has usually a board-like hardness. Dyspnea from edema of the glottis may prove alarming and necessitate a tracheotomy. The temperature is not high in most cases, ranging from 99 degrees to 103 degrees F. The conditions from which it is to be distinguished are quinsy and retropharyngeal abscess.

PROGNOSIS: Mortality is high, especially if treatment is not instituted early. Various authors have placed it at about 50 per cent. Death is usually due to edema of the larynx or broncho-pneumonia.

TREATMENT: Incise³ promptly through the swelling in the submaxillary region using local anesthesia. Thomas states that the finger should be passed upward into the wound until only mucous membrane intervenes between it and the mouth. Tracheotomy is of life-saving value when there is edema of the glottis.

CASE REPORT: Patient female, age thirty-two, was admitted to the Gill Memorial Eye, Ear and Throat Hospital, April 4, 1929.

Chief complaint: Severe pain under left jaw and throat, unable to swallow; voice was muffled; saliva was dripping constantly from the mouth.

Past history: Patient states that the left side of her neck began swelling ten days prior to admission to hospital. Three days after the swelling begun, she had a wisdom tooth extracted. The swelling and pain has steadily increased.

Physical examination: Heart, lungs and kidneys normal. Nose and accessory sinuses negative. The mouth could be only partially opened. The tongue was swollen and pushed upwards and to the right. The mucous membrane in the floor of the mouth was red and swollen and of board-like hardness. The temperature on admission was 101.6 degrees; leucocyte count 9,200.

TREATMENT: Ice-packs were applied to swollen parts constantly. Morphia sufficient

*Read by title at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

to keep patient comfortable was administered. Twenty-four hours after admission, patient's condition became much worse. The swelling in the floor of the mouth spread rapidly and forced the tongue out of the mouth. Respiration rapidly became embarrassed. Dr. W. R. Whitman saw the patient in consultation. An immediate operation was performed by Dr. Whitman, which consisted of a wide incision through the swelling in the left sub-maxillary region. Blunt dissection uncovered an abscess cavity near the floor of the mouth. About one ounce of pus was excavated. The dissection was continued up to the mucous membrane in the floor of the mouth. Wound was packed with rubber drain and iodoform gauze. The dressings were kept moist with warm boric acid solution. The alarming symptoms, especially the dyspnea, were promptly relieved. The patient made a complete and uneventful recovery.

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THE PHYSICIAN'S PART IN THE PUBLIC HEALTH PROGRAM.*

By B. B. BAGBY, M. D., Courtland, Va.

In a paper of this length I have time to discuss only a small part of the physician's responsibility in public health work. I shall, therefore, confine this paper to only two phases—ones that will require on the part of the physician only a minimum amount of time and expense.

Statistics show that man's life has been lengthened nearly nine years in the last quarter century. The average age at which a citizen of the United States died in 1901 was approximately forty-nine years; in 1926 it was about fifty-eight years.

With a careful study of our case histories, those of us who have been practicing medicine for twenty-five years can readily see how this change has been accomplished.

When I first began to practice medicine in 1904, nearly all of my cases in the summer and fall were confined to malaria, typhoid, dysentery, cholera infantum and worms.

In the spring of 1909 I moved to West Point, Va., and began to keep careful case histories.

During the first five summer and fall months of that year my records show that I *visited* 158 patients, and 108 of those were sick with one of the preventable diseases mentioned above. Happily, no such state of affairs now exists in West Point—which is as it should be. The incidence of communicable disease is now generally regarded as an index of the sanitary intelligence which obtains in a community, and, in the event of a low sanitary intelligence quota, may properly be regarded as more or less a reproach to the sanitary instructors of that district. By sanitary instructors of that district. By sanitary instructors, I mean the physicians serving that community.

PREVENTIVE MEDICINE MORE IMPORTANT

There are many other diseases besides filth-borne diseases that can be prevented; in fact, perhaps the majority of diseases except old age are more or less preventable, and even old age can be delayed and made more useful and enjoyable by a well regulated hygienic life.

Each mammal except man lives approximately five times as long as it takes him to get his growth. Why should not man live equally as long or about 120 years? God says, in Genesis 6:3, "the days of man's life shall be 120 years."

If we could put into practice the knowledge we now have for the prevention of diseases, I confidently believe that man's life would easily be lengthened another nine years in the next quarter century.

All of you will thus agree with me that there is a vast field for preventive medicine, and that the most important factor in developing this field is the education of the public in modern health principles.

Whose duty is it to disseminate this knowledge if it is not the duty of the physician? The very word "doctor" means teacher.

DISTRIBUTION OF HEALTH LITERATURE

The most effective teacher is the one who can interest his pupils in supplementary reading.

The waiting room of every physician should contain a pamphlet rack filled with health literature. This rack should be in full view of the patient and provided with some such sign as, "For Free Distribution." It should be the duty of the physician's office assistant to see that this rack is kept filled with the

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

literature most suitable to the physician's practice. The average patient will be more interested in almost any current health bulletin than he is in the average, out-of-date magazine usually found on the doctor's table.

the demonstration there were 136 such deaths.

What was done in Athens, Ga., can be duplicated in any other community if health work is adequately financed and properly conducted.



The rack on left can be bought from the Metropolitan Life Insurance Company for \$9.00. The rack on right was made out of scrap lumber by the boy at a filling station at a cost of fifty cents.

Patients should not be allowed to leave the office without being given the opportunity to carry home with them a piece of health literature dealing with the cause and prevention of their diseases.

Health pamphlets on many of the more common ailments can be obtained from the State Department of Health, the U. S. P. H. S., the U. S. Department of Labor, the American Child Health Association, nearly all life insurance companies, and other commercial firms.

Your local or State health officials will be glad to collect these pamphlets and send them to you on request.

HEALTH DEPARTMENT DESERVES SUPPORT

It has been by privilege during the last three years to act as health officer in Athens, Ga., where a specially intensive five years' program has been under way with the cooperation of an outside agency. Before this program began, the county and city health departments were spending about \$.60 per person per year and this was increased during the period under discussion so that about \$1.90 was being spent per person per year for local health services by the various agencies interested in the local health program. Under this program the actual number of deaths among white children in Athens was reduced more than one-half. To be exact there were fifty-nine deaths of white children under fifteen years of age in Athens during the last four years, while during the four years preceding

This remarkable work was accomplished by sticking closely to the highest medical ethics and advocating only these things approved by the best medical authorities.

Briefly our program was based on:

1. *Sanitation.* Every home not connected to a sewer was provided with a sanitary pit privy instead of a box and can privy, which had been found to be so unsatisfactory in that community.

2. *Food Control.* The standard milk ordinance was adopted and even all buttermilk and butter sold in Athens was made from pasteurized milk or T. B. tested cattle.

3. *Prenatal Care.* It was the endeavor to have every expectant mother under the care of a physician and to see that her urine was examined, her blood pressure taken, Wassermann made and pelvic measurements secured. In all cases, of course, literature on diet and other hygienic measures was given patient.

4. *Infant Care.* We tried to have nurse see every baby before the end of the first week. Not only was the mother urged not to wean the baby without the physician's consent, but to feed the baby only according to the physician's orders. The baby was weighed and examined regularly and sent to the physician on the first sign of sickness or lack of growth.

5. *School Care.* School children were given a thorough physical examination once every two years and urged to see a physician at once if any physical defect requiring correc-

tion was found. Each school was visited early every morning by nurse to detect any sick children. A child with a temperature of one degree above normal was carried home, put to bed, and mother was advised to call a physician.

For the last three consecutive years every white child in the city was examined by a dentist and received a certificate that all necessary dental work had been done. Other defects including impaired vision, congenital syphilis or orthopedic deformities were nearly as well handled by the physicians.

6. *Contagious Disease Control.* Of course the usual measures of contagious disease control were observed, such as isolating, quarantining, disinfecting, and vaccinating. In addition special work was done in T. B. and V. D. control.

All T. B. suspects and known contacts with T. B. cases from early infancy were urged to have an examination and, if found to be positive, were urged, with the physician's consent, to go to a sanatorium. A clinic was established to treat the indigent suffering from syphilis. A special effort was made to treat mothers and children.

7. *Health Education.* An intensive campaign was conducted to educate the whole people; health and physical educators were employed in the public schools; frequent health articles appeared in the local paper; thousands of health bulletins were printed and distributed, and clinics for physicians and dentists were conducted by men of national fame. As in all well conducted health work, nothing was attempted except with the approval of the medical society.

From the above synopsis of the work at Athens you can see that the chief aim was to put the patient promptly under medical care. Thus, the practice of the physicians who keep abreast of the times has been increased and their incomes have increased more than their practice. The average patient with hookworm, malaria, tuberculosis, rheumatism or syphilis, can seldom pay a physician. But when their diseases are eliminated these patients become an asset instead of a liability. As was to be expected, the best physicians of the community backed us in our work, while the quacks and incompetent physicians were unanimously against us. The health work as conducted in Virginia as well as in Georgia,

deserves the support of the modern physician, and I am confident that the medical society will continue to give it increasing support.

SANITATION CAMPAIGN

At this particular time the State Board of Health is conducting a campaign to have the whole State of Virginia sanitized by 1931.

This will be just twenty-five years after the first case of hook-worm in this State was brought to the attention of the medical profession. At a meeting of the Medical Society in 1906, held on this campus, I presented to this body three patients infected with hookworm, and I thoroughly discussed the cause and prevention of this disease. Before the meeting closed several students in the medical school here were found to harbor these worms and within a few months the disease was found in practically every Tidewater county and in many other sections scattered throughout the State. Even before this we were taught in our medical schools that typhoid fever, cholera infantum, and dysentery were filth-borne diseases.

Is more than a quarter of a century necessary to eradicate these filth-borne diseases which can be so easily eliminated?

Whose fault will it be if these diseases are not eradicated in the next two years?

I will say without the slightest hesitation that it will be chiefly the fault of the rural physician. Of course the physician is not expected to go out and build toilets, but he is expected to appear before his Board of Supervisors to urge that they unite with the State Board of Health in employing a sanitation officer, and also he should be expected to help that sanitation officer by urging his patients to comply with the sanitary requirements of the State.

Fortunately for the community, most of the old mossback politicians who twenty years ago did not believe in "building privies for niggers," are now dead and a more progressive citizen is in control. These men believe not only in health work, but also in their family physician. The supervisors of any county in the State will employ a sanitation officer if the medical profession will unite enthusiastically in asking them to do so.

I hope the society will go on record as urging each component organization and each member to back to the fullest this campaign:

namely, THAT THE STATE MAY BE COMPLETELY SANITATED BY THE END OF 1931.

DISCUSSION.

DR. CHARLES R. ROBINS, Richmond: I am not going to tax your patience tonight by trying to discuss Dr. Bagby's paper, because it speaks for itself. I have known Dr. Bagby for many years; I remember his paper on hookworm, and I remember the excitement which it occasioned—largely, I think, because most of the doctors were like myself; they had never heard of hookworm before. His paper aroused a great deal of interest in the subject. We had studied hookworm in the classroom, but we did not realize it was in our midst. We do not hear much about hookworm today, and the reason is that in the enthusiasm imparted by this campaign on the hookworm, backed up by the millions of the Rockefeller Foundation, the work of eradicating it was carried on until (I hope) we have not many left in the South.

DR. R. L. RAIFORD, Franklin: I do not want to discuss this paper except to state to the audience that I am living in the county in which Dr. Bagby is doing this efficient work and that I am proud to be at a meeting at which such papers as those of Dr. Drewry and Dr. Bagby are presented.

There is no question in my mind that public-health work, if we qualify ourselves to carry on the progressive ideas in medicine, is bringing work to us instead of driving it away from us, as has sometimes been charged. I never expected to see such a spectacle as I saw a few weeks ago in our county when the question of whether we should continue our health work came up. The courthouse, which holds several hundred people, was packed almost to the doors, and the movement for the continuation of the health work was enthusiastically put across by unanimous vote. The physician who is not in sympathy with such work is destined to be a back number, and I wish that all of you could have seen the enthusiasm we had manifested that day.

DR. GREER BAUGHMAN, Richmond: I think that Dr. Bagby has one of the finest little tricks that I know. Personally, I have been a health worker for years. Every woman that comes to see me for the first time leaves my office with three things, two pamphlets—infant care, prenatal care, and a bottle for urine. The pamphlets, I am inclined to think, are more important than the bottle. The reason I do this is two-fold—to instruct her in what she should do and to save myself a lot of hot air. Dr. Bagby's idea is bigger than that of saving the doctor trouble; what he has done is to aid the other doctors in the community as well. While not as sensational as Dr. Bagby's hookworm paper, twenty-five years ago, in the end I think it will probably do more good. I have been attending this Medical Society of Virginia for many years, and there is not one single paper I have ever heard read before it that made a more dramatic impression on me than that hookworm paper of Bagby's. I remember it quite clearly and the sensation it created. I believe this scheme of distributing pamphlets will do even more good than the paper on hookworm.

DR. W. A. BRUMFIELD, Farmville: I am glad Dr. Bagby has said much of what I wanted to say about the health department being the only proper and legal advertising means for the physicians of this country. Those pamphlets all urge the patient to go to his doctor. Every lecture I hear urges the

patient to go to his doctor. One state, in a recent study of the expenditures on public-health work, shows that the per capita expenditure for the cities of that state is \$1.99, the average per capita expenditure for the counties of that state is \$0.08, and for about forty of the counties the average per capita expenditure is \$0.01. In all of this time that this growing expenditure has taken place in the cities at such a rapid rate the doctors have been moving from the country to the city, where more health work was done. There is a relation between those movements. The cities prosper far and away more rapidly than the country, and there is a relation between that expenditure and that prosperity. There is a circle there, and not a vicious one. A life insurance company recently reported spending \$32,000,000 for the prevention of disease in twenty years and that the death rate among its policyholders has fallen enough more than the rate in the United States registration area to return it \$75,000,000, or a gain of \$43,000,000 over the \$32,000,000 expenditure. If we are to do anything to greatly increase the prosperity of the country districts we shall have to give them more physicians, to render the service and teach them to demand and pay for it. Often they do not send for the doctor, because they can not pay for his services; they let a child have scarlet fever or diphtheria and recover if it will; they find, as one parent said, the undertaker cheaper than the doctor.

DR. R. D. BATES, Newtown: I want to say a word in behalf of Dr. Bagby's plea for rural sanitation. I wish to ask the country doctor to support this plea for rural sanitation. In my county, King and Queen, a comparatively poor county, we had Dr. Williams come down, and we went after the board of supervisors, and they put up the money for the sanitary officer, and what we have done others can do.

DR. J. BOLLING JONES, Petersburg: I want to tell of a little incident that has happened since I have been president of this society. Not very long ago I was invited by Dr. Raiford to come to his county. The facts are these. About five years ago the health conditions in Southampton County were extremely bad; the doctors were having a time controlling infectious and contagious diseases, typhoid fever and other things. The State Board of Health saw fit to appoint a health unit for Southampton County, including the doctor who preceded Dr. Bagby, a nurse, and a sanitation officer. About that time they were having one hundred and fifty cases of typhoid fever a year. Within five years they have cut the occurrence of typhoid fever to about five last year. The facts are that this has been accomplished gradually.

I want to say this in justice to what the doctors acted upon, that they felt they had gotten conditions so good that probably they need not expend this money any more for the county. The county was hard up. I think they honestly were led in their action in that way. They had had a meeting and the majority present decided that it was probably more now than this given county could stand and that it was probably wise and safe to do away with this county unit and that they could go back and take care of it themselves. Dr. Raiford and another doctor who had quit practicing medicine and probably one other gentleman, met. The whole courthouse was packed with people. A representative of the State Board of Health went down. These gentlemen presented their petition, giving their reasons for their action first. Then Dr. Raiford and

the other doctor who was not practicing medicine, spoke in favor of it. I spoke a word then, and their legislator. All over the hall mothers and wives got up and spoke. They had had typhoid fever in their homes and knew what it meant. It was extremely touching. And, lastly, the undertaker spoke in favor of it. Finally, someone called for an expression of opinion, and every person in the hall rose when those in favor of it were asked to stand. When the board met they voted unanimously to continue the health work.

QUESTION: Wasn't there a law passed some years ago by the legislature requiring a sanitary privy of some form to be installed?

DR. BAGBY, closing the discussion: Provided the board of supervisors had acted upon it.

I appreciate more than I can express the kind words you have spoken personally of me and for taking part in the discussion.

I want to say that I got this rack from the Metropolitan Life Insurance Company for nine dollars, and I paid a boy at a filling station fifty cents to make this one for me. It is made of two scrap boards, and my wife got a ten cent can of paint at the ten cent store and painted it. There is no reason in the world why you can not get one like it, have it made by some boy who takes manual training or by some carpenter, for fifty or sixty cents. Put it up in your office.

THE DOCTOR AS A MORAL LEADER IN HIS COMMUNITY.*

By HOWARD A. KELLY, M. D., F. A. C. S., Baltimore, Md.

Moral leadership is life's *summum bonum*, and in this great field medicine has never lacked her eminent exemplars: witness the list of great names which have come down to us through the ages. In our own day and country, we recall with unalloyed pleasure the brilliant galaxy but recently living in our midst, while we give thanks for those yet with us in the flesh. Without pretending to cite even a considerable number of personal friends, some of these cherished *dii minores* which spring first to mind as I write are Max Saenger, of Leipzig, August Martin, of Berlin, Jean Louis Faure, of Paris, Gerhardt Leopold, of Dresden, and Dame Mary Scharlieb, of London, and, *facile principes*, William Osler and William Welch, also Walter Reed, Thomas Addis Emmet, Joseph Price, and our William Howell, J. M. T. Finney, Max Broedel, William Holland Wilmer, Harvey Cushing, Hugh Young,—but I must not go on with a list which would ever keep lengthening and in which lapses might appear invidious distinctions. I could wish some time to make out another roll of the great natural scientists

with whom I have been privileged to company in their varied walks of life, whether personally or in their writings, in astronomy, geology, herpetology, mycology, lichenology, and so on, but that is another story which must wait.

Let us then proceed to examine this question of Leadership. Is it, perchance, but an accident that a man becomes a leader? It is to a certain extent, but in its preeminent degree it depends on the ideal one sets before him early in life and steadfastly maintains, a goal calling all the while for unstinted hard work for its attainment. In a perhaps yet more creditable degree, some measure of leadership is attainable by even the average man who, possessed by an ideal, cultivates his spirit in a rigorous walk of self-judgment and ever works toward that as life's desideratum.

In the brief seventy-two years of my pilgrimage, I have become certain beyond a peradventure that such an ideal, imponderable though it is, alone constitutes the worthwhile satisfying life. Let us then examine this matter somewhat critically as we consider the several elements of my thesis—The Doctor a Moral Leader in His Community.

We have obviously before us: The Community, the Doctor, Leadership, Morals. The crux lies in the last, the governing life-giving principle, the very soul of the rest.

A Community is an interdigitated social body, a coherent group of units under a common governmental control, protected in their daily vocational pursuits from interference, while assuring liberty and fostering all that makes for the general welfare and happiness. Long and painful experiences have demonstrated that such a state necessarily demands the sacrifice of many of those heretofore highly-prized liberties and privileges the solitary man, or one in wilderness or state of savagery might demand—liberties permissible in a cruder life perhaps, but incompatible with the common good in any well-organized group of individuals. The word sacrifice just used is hardly appropriate, however, as there is really no loss, for out of the solicitude for the welfare of the whole body, there ever arises another attitude toward life in the appreciation of the cultural value of the mutual responsibilities with the associated enhanced opportunities for mental, moral, and spiritual development which constitute a new emergent

*Read at the meeting of the Seaboard Medical Association of Virginia and North Carolina in Newport News, Va., December 3-5, 1929.

in the recent sense. The best example of this fundamental truth is found in the married state where the manner of a man's single life, takes a Kopfheister, a bouleversement, turns topsy-turvy and is cast to the winds, and yet incalculably more accrues in return—love of wife, children, friends; in other words, it is creative and genders one of society's perfect units, the family, without which the state is impossible. A reason for this revelation lies in the commingling and continuous interchange of the infinite variety of personalities which go to make up a normal civilized society. In such an emergent community, chief among its assets and determinants, are three so-called professions—lawyers, ministers, and doctors. As these hold such critical posts, let us examine them, paying particular attention to the doctor.

The Lawyer, taking him as we find him abounding and superabounding in the political field and in our legislative halls, is apt as a speaker and trained as a logician, and is or should be an advocate of high moral standards, and in his contribution to our communal fund he ought to be interested chiefly in the framing and passage of good public welfare laws and in expunging effete and bad ones. His calling is also that of a zealous protagonist of civic righteousness, who utilizes every legitimate means to discover and bring to justice all violators of the law; he should never prostitute his high office by resorting to dialectic subtleties and tortuous devices to aid the guilty to escape. His, too, is the beneficent opportunity to effect amicable settlements of suits; above all should he ever lend a sympathetic ear to the distresses of the distraught poor. It should be his welcome, self-imposed task to see to it that our police force consists of men of high moral character and efficiency, rather useful builders-up of community morals than chasers after peccant violators of the code. When the legal profession, as a body, functions on such lines, we shall witness a transformed community. How shall we then rejoice as the ranks of our public officers, representatives, and senators are filled with such noble votaries of the Goddess of Jurisprudence. Shyster lawyers, together with quack doctors, in the ideal state depicted would be relentlessly pursued until, in utter despair, they abandoned their degraded activities.

And the Minister,—what of his vocation and

responsibility? What do we expect from one who holds earth's noblest calling, closely linked with high heaven? His is the privilege of zeal in proclaiming the Kingdom of God upon earth! His is the opportunity to bring men to rank God's honor above the emoluments of their fellows; his to teach us to obey the injunction "in honor preferring one another;" to shepherd and build up in the Way, Truth, and the Life the followers of Christ. Again, his is the life of one who walks as in the presence of God, his to manifest before all men God's love and forbearance however widely they differ in creed. May we not also ask him to vitalize the social fabric by inculcating that fundamental duty and privilege of daily family worship and to teach men the widespread need of recognizing God's greatest gift—an indwelling Holy Spirit.

Last in our list looms up the Doctor, great in his opportunities, as he ever labors to break down our evil entailment of corporeal ills that haunt our faithless humanity. Regardless of his oft worn, protesting, and neglected body, we see him hasting to solace the sufferer wherever and whenever he calls for help. The weather, day and night are alike to him; no wonder he becomes the intimate, trusted, beloved friend of the family, often closer than blood. We see him presiding at the birth and easing the last hours of departing members, rejoicing when they rejoice and weeping with those who mourn. His is the high priesthood of a self-sacrificing order, ever sending out its votaries to the front line to die as they experiment with germs and poisons in the laboratory, or to sally forth at every beck and call of our frail humanity. In this scientific era, I only need to recall the vast array of his successes in medical science, which annually confer countless thousands of years of life upon his fellows, even while he ever remains careless and lavish of his own. May I not claim, then, that, both as scientist and humanitarian, the doctor is a supreme benefactor; ought not also his mede of kindly recognition to be the greater as his only request is that he be allowed to continue to serve? Like the lawyer and like the domine, respectively, the doctor is ever-increasingly conscious of his part as a moral leader. He knows full well the horde of diseases which originate in the will—ills subject to voluntary control whether individual or communal. Preeminent in this sad group

are syphilis and gonorrhea, typhoid fever, yellow fever, tuberculosis, rickets, and all bad and insufficient food diseases, milk diseases, diseases born of dust, foul streets, bad drainage and impure water, of improper exposure in occupational diseases, *et id hoc genus omne*. What addenda these to the therapeutics of our forefathers! What an idealist and what a propagandist the doctor must needs be!

Honored with such responsibilities, the doctor must be clean in mind and habit; as adorning a learned profession he must be a man of culture and wide reading, gripped by broad sympathies embracing the wide range of human interests. His home, wife, and children, must ever fill to overflowing the fountains of his affections, to inspire him in his daily rounds to minister to body, mind, and spirit of all "who are in sorrow, need, suffering, or any other affliction." With his fellow learned professionals, lawyer and minister, he has need to maintain a perpetual holy conspiracy for the peace of the community and to foster all that relates to communal welfare.

We have analyzed a situation and its relationships, but, after all, what is the good in mere analysis? Surely there is no therapy in diagnosis, no substantial aid in philosophy! In nature we see the scattered universes, however far-flung, one and all governed by the same laws in which there is no variance. In the moral realm we hold this unity of law in the material to be a parable of the higher spiritual realm and an evidence that the moral law also rules in heaven as on earth. Nay, rather, as we become aware of our Father's kind thought for our welfare, do we rejoice as we cry out that his "essential Deity is more inwardly known by a single display of his moral attributes than by all the overflows of his Omnipotence." Here is the key to the eighth and the nineteenth Psalms! As we have no power in the moral realm to satisfy conscience by our unaided "I will," let the leaders gild their messages with a "*Sursum corda*," "lift up your hearts," and let the antiphon come back, "*Habemus ad Dominum*," "we lift them up unto the Lord."

My philosophy, fellow craftsmen, praises pragmatism, the thing that works well, and as this faith in the grace of God has worked in my own life and wide experience, I am committed to it heart and soul.

This is not the time to enter into details,

but let me, as my concluding *envoi*, commit you to the tutelage of a fine old doctor, the world's greatest physician and humanist, whose writings have been put into more tongues and are more read than those of any other doctor in any age. I refer to our patron saint, Doctor Luke, of the Gospel and the Acts, Gentile, Greek scholar, "beloved physician," a scientist in the highest sense, and one whose noble character and personality are autobiographically depicted in writings, in which he never mentions his own name. For obvious reasons, let me urge a closer study of Doctor Luke's writings, test him out, try his prescriptions and judge whether they can be labeled "pragmatic," i. e., workable. Note the sonorous introductory to the Gospel, eighty-two words (forty-two in Greek), conveying more clear conviction, thorough knowledge of facts, and competency to testify upon the greatest of all themes, than any equal number of words ever written spontaneously in any language upon any subject. Note, as you read his reports of the miracles of our Lord, the everywhere obvious unusual interest and keen eye of the skilled physician. Adolf Harnack, of Berlin, dean of higher critics, says on this head in his "Luke the Physician." "It is as good as certain from the subject matter and more especially from the style of this great work that its author was a physician by profession." I regret that I cannot pause to demonstrate this from the Greek medical terms used by Luke, and noted in a substantial volume as far back as 1883 by William Kirk Hobart who devoted his life to this study.

Pore over Luke until you absorb all his paragraphs, dwelling especially in the Gospel. Note the simple, natural, convincing flow of the narrative as he records the great events which had come within his cognizance. Note the sweet simplicity and exaltation of the family life of the Messiah when heaven first became inseparably linked with earth, when even angels, no longer able to hold their peace, rent high heaven with their rejoicings as they gave the news and sang their blessings, and you will find the song of the Gospel welling up in your own heart. Note, as you read, the pictures which have inspired the painters' guild to name Luke as their patron. Mark, too, the significant indefinite expressions "a certain man," "a certain poor widow," "a certain city," calling for the use of the word "cer-

tain," a little Greek word, *tis*, some thirty times without definition of places and persons, characterizing Luke as the universal gospel, for all men, in all places, in every age.

Numerous other interesting studies suggest themselves, but let me urge upon my humanitarian brothers one that is particularly important: As you read the Gospel, mark every reference to woman. If you study your text carefully, you will discover here the emancipation of womanhood to higher and nobler relations,—woman's Magna Charta penned over nineteen hundred years ago by one inspired by God's Holy Spirit. The highest exemplar of human consecration in all the Scriptures is the Virgin Mary. At the annunciation she reveals her perfect faith as she yields her body a sacrifice to God that it may become the sanctuary of the promised Messiah; Mary receives Gabriel's heaven-born message, "with God nothing shall be impossible;" it is she who enunciates the fundamental rule of the Christian life, "Whatsoever he saith unto you do it." Again our Lord reveals two of the lowliest women as vessels of his infinite grace (St. Luke 7, and St. John 4); the first clear announcement of his Messianic office was made to the woman last cited; woman's foresight often provided for needs when men forgot (St. Luke 8), and on the occasion of the feeding of the five thousand our Lord undoubtedly used for his purpose the loaves and fishes provided by a woman's thoughtfulness. An unobtrusive woman teaches us the lesson of true giving, that the measure of the gift lies not in the sum as man sees it; a woman's example reveals that the first step in the true life is to sit at the feet of Wisdom and learn, and then to undertake to do; it was a woman who first received the news of the resurrection—Christ's victory over death,—and conveyed it to the doubting disciples. In Luke, woman was everywhere alert and helpful; man in the background was often bungling and hindering.

My heart's desire and my prayer is that all my fellow craftsmen, ministrants to the needs of the disordered body, may become zealous Lukans, followers of him who in the first century took the crown from Aesculapius and laid it upon another Head and brought us our highest honor. Shall we not also as ministrants to the body accept our priestly office of intercession and ministry to the distraught spirit which, though it is the high calling of

all believers, yet lays its peculiar claim upon him who enters the sick room when the body is racked by life's rough blasts and when the spirit strives to quit its mortal tenement?

True moral leadership, then, is best assured to the doctor who recognizes the claims of spirit as well as body and prepares himself accordingly.

1406 Eutaw Place.

SPINAL ANESTHESIA AND ITS FUTURE IN MAJOR SURGERY.*

By HENRY J. LANGSTON, M. D., Danville, Va.
GENERAL STATEMENT AND PRINCIPLES

The progress of medicine and surgery has encountered judgments which were based upon prejudice, lack of knowledge and lack of experience. Many of the men in these fields of the past were at times ridiculed, humiliated and discouraged for the want of an open mind on the part of the members of their profession and proper encouragement in the work they were striving to do. Today this is true when men in these fields depart from the ordinary ways of doing things; they are attacked personally without regard for principles and truth. The men who have brought to the human family the drugs which have been and are being used to eliminate pain in an effort to remove pathological conditions and disease have met with professional and public discouragement. This fact has produced a certain type of fear which is not wholesome for proper growth and development of persons endeavoring to bring into existence new and better methods of doing things. Chloroform and ether anesthesia met with opposition. The other forms of anesthesia which have been developed have met with more or less opposition and discouragement, but time has vindicated the value of these forms of anesthetic and so they remain with us. The history of spinal anesthesia is probably the most dramatic development in the field of anesthesia. In the early beginnings it was rather crude in technic and, because of this, there were many failures and deaths attributed to the method. The discouragements and failures did not destroy the courage of the men who were seeking something better, and so today we can say with a degree of certainty that spinal anesthesia is with us to remain until we find something that is better.

*Read before the South Piedmont Medical Society in South Boston, Va., November 26, 1929.

May I suggest two principles which, if applied to the mind and work of the medical profession of the present day, would produce a condition which would make it possible for progress to be much greater in the next ten years than it has been in the last hundred years? (1) That we withhold passing judgment on a method of work in our field until we have acquired a knowledge which would justify passing a judgment; and (2) that added to this knowledge will be an experience that is shrouded with scientific facts, results, both good and bad. In all the fields of history great men have been discounted by the men and women of their generation because of the fact that they did not have these two things; then, after these men had passed off the stage of action and the story had been written, the human family discovered that it had wronged many of its greatest benefactors.

HISTORY

The history of spinal anesthesia dates back to 1885; that is the time when it was born, apparently, a premature infant, and it took a long time for it to receive such nutrition as to cause it to be strong enough to get a hold in this field. I have reviewed sixty articles in my own library and to my amazement I find that forty-three of these articles have been written in the years 1927, 1928, and 1929. These articles deal with the experience that a certain limited number of the profession have had with the various methods used to produce spinal anesthesia. I gathered from these reports of knowledge and experience abundance of evidence to encourage our present effort in this field. For example, in a recent article written by Romberger, he says:

"General anesthetists throughout the country, if they wish to keep abreast of the times, surely must qualify themselves to administer spinal anesthesia. The method is here to stay. It is reasonable and rational; it is accurate and scientific; it is controllable and safe."

In all parts of the United States, in both small and large cities, we are finding general surgeons, gynecologists, and obstetricians working in this field; they are reporting the results. To date these results are most encouraging. Our present methods of keeping records make it impossible to gather accurate figures and facts of the results of the use of the various forms of anesthesia. In reviewing the records for 1925 and 1927 in the regis-

tration area of the United States, we find that there was a total of 677 deaths from the various forms of anesthesia; ether led in this total with—male 180; female 196. The other various forms of anesthesia were responsible for the remainder of deaths. In 1926 there was a total of 654 deaths; again ether led. We have no method of determining how many of these deaths during these two years were due to spinal anesthesia. We believe that within the next four or five years these facts will be known to us and then we will be in a better position to compare the deaths from all the forms of anesthesia used.

We believe we can say truthfully that there is no form of anesthesia at the present time that is wholly satisfactory and absolutely safe. There is a certain amount of hazard in every form of anesthesia used at the present time, and the patient who, apparently, with the knowledge we have of him, is a perfect specimen for one or many of the various forms of anesthesia may, after passing through the experience of an anesthetic, develop conditions which terminate in death; hence, I am not advocating routinely spinal anesthesia, but I believe it has merit and should, therefore, be studied with an open mind, and with the knowledge and experience which we get, come to conclusions about its use which will be favorable.

THE CONTRA-INDICATIONS FOR SPINAL ANESTHESIA

My present knowledge and experience lead me to say that there are only three conditions which prohibit the use of spinal anesthesia: namely, (1) hypotension—systolic blood pressure below 100; (2) hypernervous patient—one who faints easily and does not have control of his senses; (3) hypertension—where the systolic blood pressure is above 220. My reason for naming this patient is based upon a belief that the drop in blood pressure in hypertension produces an anemia of the brain which is very dangerous and may cause death.

INDICATIONS FOR THE USE OF SPINAL ANESTHESIA

Indications for the use of spinal anesthesia in persons who have surgical conditions below the diaphragm, whose blood pressure is between 220 and 100, who are not too nervous, and who have conditions that are specially in favor of the use of spinal anesthesia are these:

the diabetic, the nephritic, the cardiac, the tubercular, the asthmatic, patients with bronchitis or severe colds who develop surgical conditions below the diaphragm, as well as old men and women who develop surgical conditions below the diaphragm. Practically all persons who may have perfect kidneys, perfect heart, perfect lungs, perfect nervous system, are patients that may have spinal anesthesia used upon them for any surgical operation below the diaphragm.

TECHNIC

The technic I have used has been fashioned somewhat after that practiced by Labat and Pitkin. Patient is given from $1/6$ to $1/4$ gr. morphin sulphate with atropine from forty-five minutes to an hour before operation. For over two years I used the novocain crystals made by H. A. Metz Laboratories. I had my patient sit up, and withdrew, usually, three or four c.c. of spinal fluid, dissolved the novocain crystals, and put it back in the spinal canal. About two years ago I began to use spinocain, which is made by the same people. I have had my patient sit up in the same manner as formerly. Pitkin recommends that the patient be in a reclining position and that the head of the patient be lowered in accord with the location of the operation. In the use of both methods I have had my patient lie down immediately, and had the head of the patient lowered and the feet elevated in accord with the location of the operation. I have used the novocain crystals and the spinocain on approximately three hundred patients up to date. The anesthesia has been incomplete in about 6 per cent of the cases, that it so say, it was necessary to administer gas and oxygen or ether to produce anesthesia complete enough so that I could continue the operation.

The following types of operations have been performed in patients from thirteen to eighty-one years of age, by the use of spinal anesthesia: Amputation of lower extremities; hemorrhoidectomies, hysterectomies, pelvic infections, appendectomies, herniotomies, prostatectomies, Cesarean sections, intestinal obstructions, colostomies, empyema of the gall-bladder, gall-stones, removal of the gall-bladder, deliveries by birth canal, resection of the intestines, prolapsed uteri, strangulated hernia; perineorrhaphies, trachelorrhaphies, and perinephritic abscess.

In all of these operations, with one excep-

tion, I have had no complications and no mortalities. The exception occurred the night of November 24, 1929, while I was in the midst of working on my present paper. I confess to you that this experience has caused me to study more about spinal anesthesia than all my experiences of successful cases. The case is as follows:

A negro girl, twenty-one years of age, full-time pregnancy, had been in labor thirty-six hours, was Cesarean sectioned this December two years ago by Dr. Winslow, with an uneventful recovery, and both she and her baby left the hospital all right. Examination of the patient showed a long abdominal scar, with a uterus that was contracting regularly and right severely. Patient had an extremely small pelvis and was very short between the pelvis and the diaphragm, with a baby that was unquestionably too large to pass safely through the birth canal. Patient was removed to Providence Hospital. I called Dr. Winslow to help me with the case. After checking her over, I felt sure she was a good specimen for spinal anesthesia. At 10:10 P. M. I had the patient sit up and I gave her spinocain. On account of her small size I gave her only two-thirds of a dose. Very shortly after the administration of the spinocain, I discovered a marked change in the patient's condition. From the time that she was given the spinocain until I was ready to begin work was about five minutes. The nurse who was watching the patient remarked, "Doctor, the patient is not breathing." Probably another minute passed, and it was discovered that she was not only not breathing but that her heart was not beating. Quickly I opened the uterus and delivered a female baby of about eight pounds. Dr. Winslow went to work on the patient to get her to breathe. She was given adrenalin, atropine, saline in the vein, oxygen, and artificial respiration. While Dr. Winslow and others were working, I quickly closed the uterus and closed the abdomen. The whole time took about ten minutes for the Cesarean. The best description I can give of the patient is this: Her facial expression was that of a person who was frightened to the degree that she was unable to move or speak, and in such a situation the patient simply quit breathing and the heart action ceased. This is my only fatal case. I report it with the hope of getting some good out of reporting it, and also to stimulate more

accurate study on our part in selecting cases for spinal anesthesia.

ADVANTAGES OF SPINAL ANESTHESIA

The advantages of spinal anesthesia are these: (1) You put into the body the smallest possible quantity of foreign substance, and this foreign substance does not, so far as we are able to tell at the present time, interfere with the physiological processes of the various organs of the body; (2) it gives you complete relaxation and the field of operation is as nearly perfect as it is possible to be. The surgeon being aware of the fact that his patient is conscious and is able to talk to him makes him develop a technic which a general anesthesia will probably not do. The advantage to the patient during the operation is that the surgeon can discuss with him just what is being found, and can have the patient's ready consent then and there as to what should be done and as to what should not be done. The peristaltic movements of the intestine are increased. The convalescence from an operation with spinal anesthesia is very much smoother than from a general anesthetic; rarely ever do we have nausea and vomiting; complications are not nearly so common with spinal as with general anesthesia. In case of ruptured appendix with abscess, spinal anesthesia offers a greater opportunity for recovery of the patient than probably any form of anesthesia at the present time. Since I have used spinal anesthesia I have not lost a single case of ruptured appendix with abscess or gangrenous appendix; whereas, before I began to use spinal anesthesia I lost three cases which were not nearly as bad as some cases I have operated on with the use of spinal anesthesia. Personally I believe that if those three cases could have been operated on with the use of spinal anesthesia they would probably be living today.

In the administration of spinal anesthesia there is a drop of systolic blood pressure. This can be controlled by the use of ephedrin.

THE FUTURE OF SPINAL ANESTHESIA IN MAJOR SURGERY

The future of spinal anesthesia in major surgery is sure and certain. I believe that within less than five years a large percentage of major surgery from the neck down will be done by the use of spinal anesthesia. Spinal anesthesia offers to the patient better opportunity for smooth convalescence from any

operation below the diaphragm, and it brings to the minimum the possibility of complications; likewise, it offers to the surgeon the opportunity to develop the finest technic possible. When a surgeon is operating on a patient who is awake, he is much more careful in the handling of the various organs than if the patient were asleep.

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Masonic Temple.

STREPTOCOCCUS HEMOLYTICUS SEPTICEMIA CURED APPARENTLY BY INTRAVENOUS GENTIAN VIOLET THERAPY.*

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Following a period of great enthusiasm over the prospects of the value of intravenous dye therapy, the pendulum has apparently swung over in a relatively short time to a correspondingly great skepticism. Younger physicians are apt to relegate such therapeutic measures for the treatment of septicemia to the category of discarded methods. Even such a voluminous treatise of medicine as that edited by Tice fails to mention intravenous medication in septicemia. Nevertheless, a few patients have apparently been cured by this type of therapy. One should, therefore, always consider dye therapy in handling such a serious and often fatal condition as septicemia, at least in those cases in which other methods have failed. The following case il-

*From the Georgetown University School of Medicine.

illustrates the occasional successful application of this ill-reputed method of treatment.

CASE REPORT

On April 5, 1929, the patient, a white girl, aged ten years, developed a pain in the right ear, which persisted all night. The attending physician discovered a swelling in the region of the parotid gland, and, because two brothers of the patient were recovering from mumps, concluded the girl had also contracted it. The pain in the ear continued with a little fever and on the third day a yellow seropurulent discharge from the ear appeared. The swelling in the parotid region disappeared by the fifth day. Evidence of mastoiditis developing, the patient was sent to the hospital on the sixth day, and the following day a complete simple mastoidectomy was performed for acute hemorrhagic mastoiditis. A culture of the pus revealed hemolytic streptococci. The day after the operation the temperature rose to 102.4° F., but gradually dropped to normal by the eighth day after operation. That evening and the next it was slightly elevated. On the tenth day after operation the temperature suddenly jumped by noon to 104.2° F., and by midnight it was 104.8° F. Examination of the mastoidectomy wound revealed edema and erythema of the soft tissues. The leucocyte count was 11,600 per cu. mm., with 84 per cent polymorphonuclear neutrophils. A blood culture revealed hemolytic streptococci. On April 21, the second day after the flare-up, the temperature rose to 105.6° F., and an injection of erysipelas streptococcus antitoxin was given. On April 22, the temperature remaining above 105° F., the patient was sent back to the operating room, where the right lateral sinus was uncovered. Dark blood flowed freely from a small puncture wound of the sinus. A piece of iodoform gauze was left in the mastoid wound, which was closed with silk-worm-gut sutures. The temperature, however, continued to range between 104° and 105° F. On April 24, intravenous therapy with gentian violet was considered but not undertaken. On April 25, blood transfusions of about 350 c.c. each were instituted and given every few days. On this day the hemoglobin was 65 per cent by the Dare method, the erythrocytes numbered 3,400,000 to the cu. mm. of blood, and the leucocytes numbered 12,700 per cu. mm., of which 84 per cent were polymorphonuclear neutrophils. The patient was

drowsy and languid, but nourishment, although difficult to administer, was maintained. The temperature became more fluctuating, dropping to normal in the morning but rising to 102° to 104° F. in the evening, sometimes after a chill. Cultures of the blood continued to show hemolytic streptococci in massive amounts. On May 2, jugular pressure with a spinal puncture needle in place revealed complete obstruction of the right jugular vein. Examination of the spinal fluid, which was under slightly increased pressure, revealed a slightly turbid fluid containing 580 leucocytes per cu. mm., of which 72 per cent were polymorphonuclear leucocytes and 28 per cent lymphocytes. The globulin was increased three plus in amount. Culture of the fluid was negative after five days. There were no clinical symptoms of meningitis. On May 3, the right internal jugular vein, which was collapsed, was ligated in the middle of the neck. Following this procedure, the febrile course continued as before. Nutrition was preserved by insistence on feeding and the child's general condition seemed good, so much so that she was taken daily on a stretcher out into the sun. By May 16, however, the febrile course had not altered, and intravenous dye therapy was reconsidered. On the afternoon of that day the patient had a chill and the temperature was 103° F. The next morning, May 17, while the temperature was subnormal, as it usually was at that time, 30 c.c. of a one-half per cent solution of gentian violet was administered intravenously. Thereafter the temperature remained normal or subnormal. The patient immediately began to eat voluntarily. Strength quickly returned and on the eighth day after the dye was injected the child left the hospital in a wheel chair. A blood culture taken on this day was sterile. One week later the child walked into the hospital to appear at a conference of staff physicians. During the course of the illness eight blood transfusions and the one injection of gentian violet were given at about the same point in one vein and blood was drawn from this vein several times for blood cultures.

COMMENT

One can always say, of course, after a story such as this, that the institution of dye therapy was coincidental with spontaneous recovery. If this is true in this instance, the coincidence is unusually surprising. In my enthusiasm I am inclined to believe that the use of gentian

violet had a great deal to do with the recovery of this patient. Exactly how the dye worked is another question. It seems unlikely that 30 c.c. of a one-half per cent solution of gentian violet distributed throughout several quarts of blood could suddenly destroy the myriads of streptococci floating therein. Possibly in this case the patient's immunity had reached such a point that but slight assistance was necessary to carry the battle. The importance of preserving the patient's nutrition and resisting powers by frequent transfusions and diet cannot be too strongly stressed.

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TREATMENT OF GENERAL PARALYSIS BY INOCULATION WITH MALARIA.*

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HISTORICAL

The treatment of general paralysis of the insane has followed two main channels; the one, which may be termed specific therapy, is of recent date and was instituted with the discovery of the true nature of the condition, while the other, the non-specific therapy, dates back for many years. Until recently all attempts at specific therapy have been useless, no matter what method of attack. Salvarsan, or any of its modifications, or salvarsanized serum have been introduced into the blood stream, beneath the skin, intra-spinaly and intra-ventricularly, but all have proven as ineffective as the earlier use of mercury. Ten years ago tryparsamide, a new arsenical, was introduced, and because of the beneficial results following its use in human trypanosomiasis, much was expected of it in the treatment of paresis. Experience has shown that it is beneficial in selected cases, but it leaves much to be desired. Quite often it attacks the optic nerve with disastrous results.

We are, however, concerned chiefly with the non-specific treatment. This dates from earliest times. Hippocrates, Galen, Sydenham and others proposed the use of various infectious diseases such as typhus, typhoid fever and erysipelas to influence the course of various psychoses. Many observers in the nineteenth century have reported the beneficial

results noted in mental conditions following febrile reactions from various causes. These procedures naturally fall into three main groups:

1. Substances derived from micro-organisms, such as tuberculin, staphylococcus vaccines, etc.
2. Substances such as milk, peptones, etc.
3. Living organisms.

Bercovitz has made an interesting observation on the prevalence of malaria and the scarcity of neurosyphilis in the inhabitants of Hainan, China. Of a population of 3,000,000, 50 to 60 per cent of whom have syphilis, no case of paresis, and only two or three of tabes dorsalis have been seen during his eight years of residence. The tertian and estivo-autumnal types predominate. Although he advanced several theories to account for this, he concludes that the presence of malaria may serve to prevent the spirochete from invading the tissues of the central nerve system.

The present method of treating paresis by inoculating patients with the living organism was proposed by Wagner von Jauregg in 1887, but because of the indifference with which the suggestion was received, it was abandoned and nothing was heard of it until 1917, when it was again revived by him in the Vienna School. It met with more favor this time and the literature has, for the past decade, rapidly increased in volume. The results reported have been varied. Some observers are not enthusiastic, while some report more favorable results. Those of recent years have been somewhat guarded.

LITERATURE

Bunker and Kirby report definitely favorable response in 50 per cent of 156 male patients treated with malarial therapy. The death rate was 12.5 per cent in this group observed over an *average* period of two and one-half years. Based on the average expectation of life the rate should have been 65 per cent.

McIntyre and McIntyre, in the treatment of forty-two cases, report complete remissions in 20 per cent; almost complete remissions in 12½ per cent; improvement in 20 per cent; unimprovement in 17½ per cent, and deaths in 30 per cent.

Lewis, Hubbard and Dyer followed up 1,558 cases of paresis: 77 per cent died in the hospital; 51½ per cent of these lived more than

*From the Records of Eastern State Hospital, Williamsburg, Va.

five years; while 85 per cent died in less than three years.

Bahr and Bruetsch reported 100 cases: 25 per cent were able to leave the hospital; 12 per cent improved to such an extent that they could be trusted in useful occupations in the hospital; 40 per cent were placed in the unimproved group. In thirty-two cases of the latter group the disease was progressing; in eight instances the disease remained stationary. Five succumbed during the rigors, and eighteen died following the malaria.

CONTRAINDICATIONS

Diabetes, tuberculosis, pronounced general debility, or severe organic lesions of the heart were considered contraindications to injections of malaria. In patients of advanced years small doses of digitalis were given following the injection. Although a large percentage of paretics have an aortitis, this is rarely the cause of death and was not considered a contraindication.

DIAGNOSIS

The stage of the disease in those admitted to this hospital was almost without exception far advanced. They had committed some gross indiscretion and shown pronounced mental changes before commitment. Of course, a good many did not have what is commonly known as a classical symptom, that of delusions of grandeur, but all gave a history of psychic abnormalities, which had been present for months or years. They not infrequently simulated other forms of mental disease, especially those characterized by excitement or depression. Argyle-Robertson pupils, tremors of the face, tongue or lips, speech defect and ironed-out expressions were almost universal. Transient hemiplegias were common.

The results of laboratory examinations have been of great benefit in arriving at a diagnosis. If the blood and spinal fluid Wassermann are strongly positive; if the fluid is under pressure, and the cell count is as high as 20 to 40 to the cm. and of the lymphocytic type, with an increase in the globulin, we do not believe any error is probable in making a diagnosis if the history, physical and mental findings are correlated. The colloidal gold curve is undoubtedly of great benefit, but, in as much as multiple sclerosis

may produce a typical paretic curve, we believe that it is very easy to over-estimate its importance.

METHOD OF ADMINISTRATION

Tertian malaria is undoubtedly the safest and best type to use. We were fortunate in securing a specimen from the laboratory of Dr. Geo. H. Kirby, Manhattan State Hospital, New York. Subcutaneous injections of 2 c.c. of the citrated blood was used at first, but after the strain had become firmly established, we used the simple arm to arm venous injection of 1 c.c. of pure blood. No untoward results were noted in this method. The chances of a "take" are better and the period of incubation is shorter than that following subcutaneous inoculation.

After a period of from three to ten days, the malarial attacks usually commenced. The temperature reached 103° to 105° and the paroxysms occurred every other day. This was interpreted as being a double tertian infection, as several patients received more than one injection. The fever may begin as a tertian and become quotidian in type. This does not depend on the strain of parasite used, but upon the reaction of the individual.

Our experience has shown us that it is better to allow the patient to have as many as a dozen chills if the physical condition will tolerate it. Unusually high temperatures, or those which cause much discomfort, can be controlled by cold sponges. Quinine in small doses does not moderate the pyrexia. It either has no effect or stops the paroxysms altogether.

When it was decided to terminate the treatment, 10 grains of quinine sulphate orally three times a day for three days, followed by 10 grains daily for three weeks, always sufficed.

RESULTS

During the past four and one-half years, at the Eastern State Hospital, we have treated forty patients—thirty-one male and nine female. Thirteen of this number were under forty years of age, while twenty-seven were over forty. The youngest patient was twenty-six; the oldest sixty-two.

In discussing the outcome of malaria treatment, two questions naturally present themselves—first, the clinical results obtained, and, second, the dangers of the procedure. The

following is the tabulated results of our experience:

Full remissions -----	5 or 12.5%
Unimproved -----	17 or 42.5%
No arrest of pathological process -----	3 or 7.5%
Died in less than one month after administration of M. -----	3 or 7.5%
Died from 3 months to 2 years following inoculation -----	7 or 17.5%
Lived more than 2 years -----	5 or 12.5%

The five who had a full remission were able to leave the institution, follow their usual vocations and become self-supporting. There is, of course, no way of knowing how permanent this result will be, because a period of at least ten years should elapse before we can speak of a cure, or can be certain that this is not anything more than a remission, which might occur spontaneously. Seventeen were considered unimproved in that they still require institutional care. There were three in whom no appreciable check in pathological process was noted, and these have rapidly become more deteriorated.

From an economic aspect, only those patients are considered improved who are able to leave the hospital and become useful outside. From an humanitarian standpoint, any change which results in improvement—physically, mentally or morally—is of value. We have considered only the former, the economic side, in presenting this series. This may account for the large number of those unimproved.

Many of this group improved markedly in their general appearance. Patients, who were previously dirty and untidy in habits and speech, often become cleanly and neat and careful in conversation. The complexion and texture of the skin improves, and there is often a marked willingness to work in those who have previously refused to help around the hospital.

Seizures are less frequent after a course of chills, and often patients regain control of their sphincters. Tremors are less, but there are no marked changes in the reflexes.

Mentally, the treated patients often experience a feeling of good health. This is more normal in character and is not euphoric or boastful. Grandiose ideas have a tendency to disappear, and the attacks of excitement or depression become less frequent and may also disappear.

The changes enumerated above do not, of course, occur in each case, but most of the so-called unimproved group showed some of these.

DANGERS AND DIFFICULTIES

We now come to the second question, namely, the danger and drawbacks of the procedure. Three patients died during the malaria paroxysms. The mechanism of death from malaria is not always plain. Emboli, massing of parasites in the brain capillaries, or heart affections, including myocarditis, coronary blockage, etc., may be the causative factors.

Twelve patients died from three months to two years following the cessation of chills. Some patients possess an immunity to malaria, either partial or complete. It was necessary to re-inoculate several of our patients, and these often had from four to six chills, and apparently sterilized themselves. One patient was inoculated eight times over a period of three years and did not acquire an infection.

The difficulty usually experienced by some practitioners in keeping the organism virile for the inoculation of isolated cases was apparent here. It cannot be maintained in an active state on artificial media for transmission to new patients as they are admitted. It is necessary to carry the blood from donor directly to the recipient.

COMMENT

1. Before the recognition of paresis as a syphilitic disease, the prognosis of recovery, or for any improvement, was hopeless.

2. The advent of specific treatment failed to improve the gloomy outlook.

3. In as much as paresis is a chronic inflammation of the brain and its coverings, a chronic meningo-encephalitis, we cannot hope for a cure. An arrest of the pathological process is all that can be expected. It behooves us, therefore, to make an early diagnosis and institute treatment at once, before there is much destruction of brain tissue.

4. The mortality rate encountered indicates that the malaria treatment of general paresis is attended with definite risk to the patient. When one reviews the fatalities that have occurred in other forms of treatment, one is forced to the conclusion that no present method of therapy is without grave dangers. In a condition whose prognosis is so univer-

sally hopeless, it would seem, however, that the possibilities of relief out-weigh the possible chance that an already blighted life may be shortened.

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CANCER.

By B. M. RANDOLPH, M. D., Washington, D. C.
Professor of Clinical Medicine in the Medical School of
George Washington University.

"I propose formless and undetermined fancies, like those who publish subtle questions to be after disputed upon in the schools, not to establish truth, but to seek it."—MONTAIGNE, LVI.

The human animal begins existence as a fertilized ovum. The ovum is a single animal cell. As soon as it is fertilized, it immediately begins to multiply itself with great profusion, producing a multitude of cells similar to itself, arranged in a layer within the embryonic sac. In the early period of embryonic life, this collection of cells is called the blastoderm. The early cells of the animal embryo are of the most primitive form, much like amoebae. At first they are all apparently alike. As growth proceeds within the maternal womb, the layer of the blastoderm is divided into

three other layers, the epiblast, the mesoblast and the ectoblast. These now take on different characters, and, by the time the infant is ready to be born into the outside world, have become fairly well differentiated into the adult types that make up the cells of the human body,—that is, they have evolved from a single primitive type of animal cell into a number of types, and have acquired special functions for the different groups, as, for example, bone, muscle, gland, skin, nerve. The tendency to exuberant reproduction seen in the embryonic stage has now disappeared. The differentiated cells have become permanent members of the body structure, and only such reproduction goes on as is necessary to repair the wear and tear of life. In some tissues, such as the skin, this process is quite active. In others, such as bone, it is almost negligible, after maturity is attained.

If, however, a destructive agent attacks any of these tissue groups, nature responds with the phenomena of the inflammation, regeneration and repair. We now find that the tissue cells of the locality injured begin to multiply, reverting to the type of cell found in the embryo. When the local crisis is past, this type of reproduction ceases, and the new cells develop into the adult type. We see, then, that when cell existence is endangered, it is a biological law that the instinct for survival causes the cells to turn back to the embryonic state. This principle persists only so long as the destructive agent is active. When the danger is past, the adult phase is resumed.

Just what is the nature of the stimulus set in action by injury is not known. It is known that its effect is to cause temporary reversion to the embryonic state. Why it ceases, after once having been set in motion, is not known. It seems fair to assume that the causative stimuli cease when the injurious factor ceases to be active. The phenomena, then, of regeneration and repair of a local tissue injury are a reversion of the evolutionary process by which the animal develops from the fertilized ovum into the adult type.

It is not necessary for us to be able to understand the life principle which determines the evolutionary process, in order to be able to conceive of an inversion of the process,—that is, a retrogression from the adult type to the embryonic type. This is precisely what happens in cancer. The difference between

cancer and the normal regeneration and repair described in connection with the healing of local injury lies in the fact that in cancer there is no time limit to the reversional tendency. The embryonic cells do not cease to multiply as such, and develop into adult cells, but continue to behave as they do in the early stage of embryonic existence. The new tissue now becomes parasitic, living at the expense of the adult organism, invading it and destroying it. It would seem that the difference between the two processes lies in a difference between the stimuli that set them in motion; that in the one case the activity of the stimuli ceases with the activity of the injury, while in the other they are generated continuously and permanently.

The common known causes of local injury are trauma, parasites, and physical or chemical irritants. These have all a time limit. In cancer we have to assume a stimulus, or a group of stimuli that act continuously, and, furthermore, that these stimuli are localized, and not generally distributed through the body.

We recognize that a low grade of irritation, continuing over a long time, is not infrequently followed by the development of cancer at the site of irritation. This is seen in the epithelioma of the lip of smokers, and in the artificially produced tar cancer of experimental animals. It would seem that if a local irritation, not intense enough to produce cell death, continues indefinitely, the fixed tissue cells at first respond in the same way as they do in the presence of an inflammatory agent, reverting to the embryonic type, expecting to accomplish their duty of repair, and then to resume the adult type. But the local stimulus does not cease to act, as in the case of ordinary injury, but persists continuously and indefinitely. The biologic trend is for the embryonic phase to continue so long as the injurious factor is active. It appears that, after a time, these cells lose the power to return to the adult type, and revert permanently to the embryonic type. They become purely parasitic, as they were during the early stages of intrauterine life. They are acting under the basic law of survival. Unable to carry on as adult cells, they resort to unlimited reproduction, in order to maintain existence at all costs. This principle of reverting to primitive form and intensification of reproductive function is seen

throughout life. Rabbits, fish, insects, creatures that form the prey of other animals, provide against extinction by excessive fertility. The fact that in cancer this procedure on the part of a local group of cells is disastrous to the individual in whom they are located is a mere incident. As Galen said, nature acts by general law, and not *à propos*. They are like the individuals of an organized society that has broken down and ceased to protect its members; they revert to a barbaric cave man type.

A complete solution of all the factors concerned in understanding the nature of cancer probably involves many things. There are three questions that seem to present themselves, whose consideration is fundamental. They are:

1. What is the life principle that determines the development of the fertilized ovum into the adult animal?

2. What is the source and nature of the stimuli that, in the presence of local injury, cause the adult fixed tissue cells to revert to the embryonic state, as seen in the ordinary process of regeneration and repair?

3. What is the nature and source of the stimuli in cancer that cause the adult fixed tissue cells to revert permanently to the embryonic type?

The answer to the first is probably unattainable for humanity, since it seems to involve a knowledge of primordial causes and purposes that is beyond the range of our finite vision. The second and third are practical problems of science, whose solution we have a right to expect in the course of time. The real purpose of this paper is to suggest the line of investigation that seems to offer a prospect of finding the answer to these questions.

Pathology, in its early stages, was limited to the study of the gross anatomical changes occurring in disease. Later, the microscope added the study of the finer structures of the individual cell, and its environment. Then it came to embrace the study of disordered behavior of the body and mind, and we had pathological physiology and pathological psychology.

During the present generation pathological chemistry has entered the field, and in the few years it has been studied, it has added immensely to our understanding of diseased processes. As yet, it is in its infancy. The ul-

timiate analysis of every vital process is physio-chemical. Continued progress in scientific medicine is evidently to be along this line. A few years ago chemistry existed in the medical curriculum only because of the *materia medica* and toxicology. In the future no question of physiology, normal or pathological, will be completely solved until its physio-chemical nature is revealed. Future endowments for the advancement of medical science should have the view of enlarging the interest of chemists in the phenomena of animal life.

Who, in the last century, made the greatest contribution to the advancement of medical science? Pasteur, the chemist.

2010 R Street, Northwest.

MEDICO-DENTAL DIAGNOSIS.*

By HORACE M. DAVIS, D. D. S., F. A. C. D., Baltimore, Md.

Many times in the past it has been my pleasure to talk to dental groups and on numerous occasion to talk to medical groups, but this is the first time I have had an opportunity to talk to both at the same time. This is a privilege much appreciated, I assure you.

Experience gained during many years while working extensively with dental and medical men has given me some definite impressions of the shortcomings of both groups especially as they apply to their collaboration in treatment of systemic diseases. If you think these impressions are wrong, say so and why. If you agree with them, so much the better. In either case I believe good will come from frank discussion of them at this time. Please bear in mind that nothing said shall be in any sense personal, nor that we are unmindful of the fact that there are many individual exceptions to the rule.

Let us go back at least ten years when the idea was conceived that teeth cause practically all of the ills of humanity. "When in doubt remove teeth," became the slogan. Wild promises, without scientific or clinical foundations were made as to the effect or cures if teeth were removed. Like the recent stock market break the result was inevitable and responsible for the loss of much of the good and substantial that we had. Patients in many instances were not improved, but at times be-

came worse afflicted. The net result was a period of resentment on the part of the public. Physicians lost their enthusiasm and went from one extreme to the other, apparently coming to the conclusion that teeth are not important factors in systemic diseases. At present, in most cases it appears that when nothing else can be found that might be causing a patient to be ill, teeth are then given consideration. Gentlemen, too often teeth are removed when all other treatment has failed. This is deplorable, for at this late period the patient usually shows no improvement even though infected teeth may have been the primary cause of an illness. The consideration of teeth as a factor in systemic diseases should be routine and not a last forlorn hope.

Let us again review that ten-year period from the dental standpoint. Until then little consideration had been given to teeth as they are related to systemic infection and the dentist was skeptical of the suddenly conceived wide sweeping medical theories, so confidently advanced though upon unproved foundations. He was resentful when his patients, to whom he had given conscientious service for years, were arbitrarily ordered by medical men to have their teeth removed upon the supposition that they might be foci of infection. By precept and experience he had learned to regard the teeth as very important organs in promoting human health and happiness and he looked with awe upon their ruthless destruction without more definite evidence of their responsibility in causing some remote systemic disease. Having been specially trained in their care and treatment, he considered himself more competent to pass upon their retention or extraction and naturally resented it when the physician usurped his prerogative. The result was confusion which did not react to the benefit of the patient.

Two impressions must be submitted here, neither of which in my opinion will be pleasing. First, that the medical man who is conscientiously endeavoring to thoroughly treat his patients has a right and should select some competent dentist to advise him about mouth conditions. If all dentists were equally competent in all branches of dentistry this would not be necessary. However, we know they are not and we should be broad-minded enough to admit the physician's right to a dental opinion in which he has confidence. To

*Read at a joint meeting of the Richmond Academy of Medicine and the Richmond Dental Society, November 26, 1929.

make exceptions break down the rule. The other impression is that physicians should refrain from giving dental opinions to patients and particularly cease arbitrarily demanding the removal of teeth when the dental opinion is that they should not be removed, and that general surgeons should not operate on mouth cases without dental consultation and cooperation.

Only by this procedure or some similar one can we establish that confidence in each other that we should have. Unquestionably, the outstanding reason for the physician's attitude is his lack of confidence in the dentist's medical knowledge. Unfortunately the dentist is in most instances judged only on his knowledge of things medical. That is not quite fair because most of his training and practice have been along other lines. His training and clinical observation give him knowledge of the relation between general health and mouth conditions, but they cannot be expected to provide him with a thorough understanding of the practice of general medicine which a physician must have. On the other hand the average physician's knowledge of teeth is just as limited as is the average dentist's knowledge of medicine.

In Bulletin No. 19 of "The Carnegie Foundation for the Advancement of Teaching" we find the following in General Comment on a leading Medical School, quoting from their Annual Announcement.

"It is our desire to train every student in the use of the laryngeal mirror, the otoscope the interpretation of X-ray plates and other methods necessary for the recognition of disease in the accessory nasal sinuses, ears, tonsils, larynx and oesophagus. Each student in the second-year class receives individual instruction in the anatomy of the upper air passages and the use of the various diagnostic instruments. They . . . are required to examine the nasal cavities, throat and vocal cords in each other." In short, students are taught to examine almost everything in this region except the teeth.

In the three-page index in the Annual Announcement of this Medical School, the words tooth, mouth, oral dentistry, odontology and stomatology, do not appear, although ear, eye, nose and throat, or equivalent words, have their accustomed places. This Announcement contains no suggestions of attempts to correlate instruction in clinical dentistry with clinical med-

icine and there are no indications of elective or graduate courses in any phases of clinical dentistry or stomatology but advanced courses are very numerous for other regions of the body.

The proper consideration of our patients appears to make each profession dependent upon the other. Surely no dentist will deny his need of the physician when dealing with patients suffering with cardiac diseases, nephritis, advanced stages of tuberculosis, hemophiliacs, extreme acute infections and many other diseases.

The physician needs the dentist to assist him in all types of mouth diagnosis and treatment. Many cases of stubborn maxillary sinus infections are caused by infected teeth and immediately clear up on their removal. Acute and chronic disturbances of the throat are in many instances due to partially erupted third molars. Fractures can be treated better and the mouth kept in a cleaner condition with the dentist in attendance but, after all, his work is that of mouth diagnosis. A set of X-ray films, even when perfect, is only an aid to diagnosis, and they are rarely perfect. If he is conscientious, no effort will be made to diagnose from inadequate films, nor in the absence of the patient. Experience teaches us that only grief comes from careless or indifferent efforts at diagnosis.

This paper was illustrated by lantern slides.

Medical Arts Building.

HOSPITALIZATION OF CONTAGIOUS DISEASES.*

By C. L. OUTLAND, M. D., Richmond, Va.

Those of us who are responsible for the control of communicable diseases have frequently felt the need of a contagious disease hospital, capable of serving the public need for isolation and treatment. We have been inclined to envy communities which have been able to provide excellent institutions of this sort, but have been deterred from establishing them by the cost of construction and maintenance.

While practically every community, from time to time, is embarrassed by the occurrence of contagious diseases, which cannot or should not remain where they are found, most small communities are forced by the lack of hos-

*Read before the Virginia Public Health Association, in Richmond, January 9, 1930.

pital facilities to isolate these cases, in many instances, under unsatisfactory conditions.

This need has been felt in Richmond to such an extent that a few years ago a philanthropist provided funds for the erection of such a hospital. This well designed contagious disease hospital was operated for a short time as such, but finally had to be abandoned and was used for other purposes; and at the present time is being used as a children's hospital. After its conversion to other uses, there was still a need; so we constructed a less elaborate and less extensive hospital unit which seemed capable of serving a useful purpose.

Institutions of this type is the main topic for this discussion, along with the need for hospitalization and some of the problems met with in the isolation of various cases.

The need for hospital care, from an isolation standpoint: We have such instances as illness in the homes where there is a dairymen; where there is a restaurant or food handler; school teacher; preacher; large number of children in the home; necessity of keeping High School students out where a younger child has a contagion; large boarding houses; poverty of patient or parents; Y. M. C. A.; Y. W. C. A.; railroads; steamship lines; apartment houses; hospitals, especially surgical and obstetrical; contagious diseases complicating other diseases; dairy farms supplying a town or city; diphtheria carriers—patients who are not usually ill and therefore difficult to keep quarantined.

The above, then, are some of the conditions where proper isolation is very important. There arises, then, the question of how best to meet these problems. I venture the assertion that the ideal way is by an adequate contagious disease hospital, well staffed and supervised, this, of course, to take care of all cases of contagious disease of whatever nature. With our present rules and regulations for the quarantine and isolation of contagious disease throughout Virginia, it has been rather hard to get enough patients to make such a hospital successful. Many parents are unwilling for their children to go because of a fear of contracting other diseases admitted to the same hospital. They also feel that most contagious diseases are not serious enough to need hospitalization, and are willing to any incon-

venience which may be attached to home quarantine.

With the outstanding need for a hospital to take care of such cases mentioned above, we planned and constructed a small hospital on the City Home property, at a total cost of \$12,000; with ten private rooms, one four-bed ward and one six-bed ward; four tile baths and a diet kitchen. In each of the private rooms there is enough space for two beds, while the wards can take care of one or two extra beds without being unduly crowded. The hospital is under the direction of the City Home staff, with one nurse who gives her entire time to it. Extra nursing service is always provided for the ill patients, especially for scarlet fever in acute stages, laryngeal diphtheria, intubated cases of diphtheria, spinal meningitis, and complicated measles. A conservative estimate of the cost per patient per day is from \$2.00 to \$2.50.

Since the organization of the hospital, contagious diseases taken care of at the Home have increased, as shown by the following figures, since 1923:

In 1923 there were 161 cases.

In 1924 there were 207 cases.

In 1925 there were 248 cases.

In 1926 there were 262 cases. (Hospital opened October 18, 1926.)

In 1927 there were 410 cases. (Increase of 138 over previous year.)

In 1928 there were 412 cases.

In 1929 there were 690 cases.

These include tuberculosis and venereal disease, which are taken care of in special wards and not in the contagious disease hospital.

"Since the opening of the hospital, it has been in constant use, housing such cases as measles, scarlet fever, chicken-pox, scabies, pink eye, diphtheria, meningitis, etc. In instances where surgical operations were necessary, arrangements were made for same to be performed in the building. The building has already proved a real asset to the service of the City Home."

The above is quoted from the Superintendent's Report for 1926.

During this time we have had as high as sixteen patients at one time. There are occasionally a few days when no patients with diseases of a contagious nature are in the hospital. We have found that the greatest need

is during the months from August to March, with the seasonal variation for the type of case (the fall and winter months scarlet fever and diphtheria, spring measles, and summer whooping cough).

Thus far, in nearly four years of operation, we have not had a single cross infection, and have had at the same time measles, diphtheria, whooping cough and scarlet fever. In the matter of deaths, we also make a very good showing, considering most of the cases taken who have died have been severely ill at time of admission.

Below are listed some of the types of cases where isolation at hospital has been especially beneficial:

CASE NO. 1. Young woman from Y. W. C. A. rooming house, where there were three or four beds in each room; twenty to twenty-five girls on each floor of the building.

CASE NO. 2. Student at one of our colleges; no proper arrangements for isolation.

CASE NO. 3. Chinese laundry—three children with diphtheria at the same time. To properly isolate, laundry had to be closed; by moving them to hospital, mother and father were able to continue their work.

CASE NO. 4. Three children in one family victims of scarlet fever. Mother unable to take care of them at home; father at work in a distant city. By the aid of hospital, mother was able to look after children in one of the wards. One of these had an ear complication which was immediately recognized and treated by the interne.

CASE NO. 5. Merchant—groceryman—who lived in home with several children; isolation difficult. Hospital helped him to solve the problem.

CASE NO. 6. Mother and two children ill with diphtheria. No one at home to look after them. Third child isolated in another room at hospital did not contract the disease.

CASE NO. 7. Diphtheria carrier. Several other children out of school while patient remained at home. He was sent to the hospital. Other children were found negative and were allowed to return to school.

CASE NO. 8. Numerous cases from children's wards of City Hospital, as well as from the City Juvenile Detention Home, the State Board of Public Welfare, and other children's homes in and around the City.

In the brief review of the cases listed above, it is plain to see that there is a definite economic problem connected with the proper isolation of contagious cases.

It seems to me that the results we have obtained in our small hospital are applicable to other cities, towns and counties of our State. As before mentioned, the general public must be educated to the reasons for going to a contagious disease hospital. When this has been fully accomplished and adequate hospitals built and staffed, so that the public will know they are receiving proper care, then our problem of hospitalization of contagious diseases will be met, and we will, I firmly believe, be able to show a reduction in morbidity and mortality.

Proceedings of Societies

Norfolk County Medical Society All-Day Clinic.

In harmony with, but not under direction of the Department of Clinical Education of the Medical Society of Virginia, the Norfolk County Medical Society held an all-day clinic on Monday, March 31st, which was unanimously declared to be one of the most successful and practical medical gatherings in Norfolk for a long time. The Department of Clinical Education aided greatly in the publicity given prior to the event, so that a large number of physicians from the adjoining territory were present.

The program was presented substantially as announced in the April issue of the VIRGINIA MEDICAL MONTHLY, and two or three features call for comment.

First, those taking active part in the program, with the single exception of Dr. James T. Gwathmey, of New York, who happened to be in Norfolk recuperating from his recent accident, were members of the Norfolk County Medical Society. Second, no attempt was made to discuss the bizarre or extremely rare conditions, the subjects being all related to the every day practice of the average physician. Third, in a program covering so long a time, only two of those assigned to speak failed to appear, and contrary to general experiences the program went through on schedule time.

The morning session was held in the Protestant Hospital and was opened with a Medical

Clinic under direction of Dr. F. C. Rinker who dealt with certain cardiac conditions. Dr. Walter P. Adams reported several cases and was followed by Dr. A. B. Hodges.

Dr. Lomax Gwathmey conducted a Surgical Clinic in which Dr. B. M. Baker discussed skin grafts; Dr. N. F. Rodman spoke of the office treatment of varicosities; and Dr. James T. Gwathmey, of New York, presented a consideration of some of the newer anesthetics.

In the Pathological Clinic under direction of Dr. Wm. B. Newcomb, Dr. Edward T. Hargrave described a rather unusual type of Ovarian Tumor, and Dr. Newcomb spoke of Liver Function tests.

Dr. W. P. McDowell conducted a Clinic on Pediatrics in which he spoke of Infantile Tetany, and Dr. Frank D. Wilson discussed Rickets.

In the Obstetrical and Gynecological Clinic directed by Dr. C. J. Andrews, Neoplastic Disease of the Pelvis was discussed by Dr. Chas. W. Doughtie. Dr. L. F. Magruder spoke of the indications for the use of Radium. Dr. Millard B. Savage demonstrated Pelvic Measurements; Dr. G. Bentley Byrd spoke on Prenatal Care; and Dr. Andrews discussed Leucorrhoea and Vaginismus, bringing to a close a session that was crowded with helpful material.

A complimentary luncheon was then served in the Hospital dining rooms to all present.

The afternoon session was held in St. Vincent's Hospital and was of equal interest as the morning.

Dr. R. L. Payne spoke on Kidney conditions and with his associate, Dr. R. DuVal Jones, presented a number of typical cases. Dr. Jones then presented a case and discussion of Thrombo-Angiitis Obliterans.

In the Roentgenological Clinic arranged by Dr. Clayton W. Eley, Dr. James W. Hunter illustrated the Diagnosis of Chest Conditions, while Dr. L. F. Magruder presented an X-ray Study of the Urinary Tract. Dr. S. B. Whitlock discussed the Diagnosis and Treatment of Giant Cell Carcinoma, after which Dr. Eley talked on Gall-Bladder conditions.

The Medical Clinic conducted by Dr. W. B. Martin dealt with Cardiac and related subjects and was participated in by Drs. Martin and M. S. Fitchett.

In the Dermatologic Clinic, Drs. Jas. W. Anderson and Raymond D. Kimbrough pre-

sented a large number of most interesting skin lesions and discussed their treatment.

The Urological Clinic under charge of Dr. B. E. Harrell closed the afternoon session with a discussion of Benign Hypertrophy of the Prostate by Dr. Harrell, and a talk by Dr. Thos. V. Williamson on Kidney Stones.

Expressions of satisfaction with the work of the day were heard on every hand, the out of town visitors being especially complimentary in references to this new departure, with many hopes being voiced that similar clinics should be made a regular procedure in future.

A complimentary dinner was served at the Norfolk Country Club and social intercourse held sway until time for the evening session, which, though not really a part of the Clinic, brought the day's proceedings to a close most appropriately. The evening was the time for the regular monthly session of the Eye, Ear, Nose and Throat Section of the Norfolk County Medical Society, and Dr. Chevalier Jackson, of Philadelphia, had been secured to discuss "Bronchoscopy as an Aid in the Diagnosis and Treatment of Disease of the Lung, illustrated by Chalk Talk, Lantern Slides and Moving Pictures. This demonstration drew a large audience, the members of the Tidewater Dental Association having been invited, and many ladies showing deep interest in the subject matter of discussion.

It is regretted that space would not admit of a resume of many of the addresses of the day. A great deal of practical value was brought out, the program being of high order throughout.

At a subsequent meeting of the Norfolk County Medical Society it was definitely decided to make such a Clinic at least an annual event, many favoring even more frequent gatherings.

LOCKBURN B. SCOTT, M. D., *Secretary.*

Patrick-Henry Medical Society.

The regular quarterly meeting of the Patrick-Henry Medical Society was held in Dr. G. B. Dudley's office, Martinsville, Va., April 3, 1930, with Dr. W. C. Akers presiding. Following a short business session, a very interesting program was rendered by local members. Dr. John Shackelford gave a very instructive talk, with case reports, on "A Special Type of Influenza Puerperal Sepsis," while Dr. G. B. Dudley read a paper on the "Relation of the Eye to General Diseases." The meeting adjourned at 9:30 P. M.

The next regular meeting is to be held at Patrick Springs Hotel in Patrick County.

W. N. THOMPSON, M. D., *Secretary*.

The Mecklenburg County Medical Society

Held its first spring meeting at South Hill, Va., April 15, 1930, under the presidency of Dr. C. V. Montgomery, of South Hill. The meeting was most interesting and largely attended, there being fourteen of the eighteen county members present, besides a group of Brunswick and Lunenburg County doctors and several Richmond and Petersburg physicians. The Department of Clinical Education of the Medical Society of Virginia in cooperation with the county society assisted greatly in providing a most interesting program. The clinical demonstration of Pellagra, showing several cases in different stages, was well discussed and proved to be most interesting and instructive. Dr. H. H. Ware, Richmond, gave a demonstration of Prenatal Examination and Care in Obstetrics. Papers were presented by Drs. W. W. Wilkinson, LaCrosse, on "Eclampsia," Dr. J. Allison Hodges, Richmond, on "Neuropsychic Cases," and Dr. Carrington Williams, Richmond, on "Early Symptoms of Cancer." Dr. L. H. Brace, South Hill, was elected to membership in this society. A committee of citizens and a committee from the American Legion Post of Mecklenburg County presented a proposal to raise funds for a county hospital, which would be staffed and run by the county physicians. A county protective credit system was also presented to the Society.

The next meeting of the Mecklenburg County Medical Society will be held in Clarksville in September, at which time will be held the election of officers.

A. T. FINCH, M. D., *Secretary*.

Book Announcements

Diseases of the Skin: Treatment in Detail. By NOXON TOOMEY, M. D., F. A. C. P., St. Louis, Mo. Cloth. 512 pages, large octavo. Price \$7.50. St. Louis: Lister Medical Press, April, 1930.

This volume is the third and last volume of the treatise on Diseases of the Skin, and deals entirely with treatment, the first and second volumes dealing with pathology and diagnosis in their respective order. The book is thoroughly revised and entirely up-to-date, detailing the latest word in skin therapeutics. However, this is not to be considered a mere

compendium of existing works on skin diseases, but as the author states, his purpose having been "to present cutaneous therapeutics in a form originating in his own experience there has been, with but very few exceptions, no mere rewording of what has been written on the subjects discussed." Though the scope of the book is quite extensive, the subject has been carefully and painstakingly worked up, a very logical and orderly sequence in classification presented, and full details of treatment given. Particularly complete and valuable is the discussion on syphilis; its various stages, and the therapeutic variations necessary in them. The work should prove to be of especial value to general practitioners as a reference work.

E. N. P.

Lectures on Colonic Therapy. Its Indications, Technic and Results. By O. BOTO SCHELLBERG. Illustrated. The Oboschell Corporation. New York City. Octavo of 55 pages. Paper. Price \$2.00.

The Normal Diet. A Simple Statement of the Fundamental Principles of Diet for the Mutual Use of Physicians and Patients. By W. D. SAN-SUM, M. S., M. D., F. A. C. P., Director of the Potter Metabolic Clinic, Department of Metabolism, Santa Barbara, Calif. Third Revised Edition. St. Louis. The C. V. Mosby Company, 1930. Octavo of 134 pages. Cloth. Price \$1.50.

Trauma, Disease, Compensation. A Handbook of Their Medico-Legal Relations. By A. J. FRASER, M. D., Chief Medical Officer, Workmen's Compensation Board, Winnipeg. Philadelphia. F. A. Davis Company. 1930. Octavo of 524-xiv pages. Cloth. Price \$6.50 net.

Varicose Veins. With Special Reference to the Injection Treatment. By H. O. MCPHEETERS, M. D., F. A. C. S., Director of the Varicose Vein and Ulcer Clinic, Minneapolis General Hospital; Attending Physician New Asbury, Fairview and Northwestern Hospitals, Minneapolis, Minn. Second Revised and Enlarged Edition. Philadelphia. F. A. Davis Company, 1930. Octavo of 233 pages. Illustrated with half-tone and line engravings. Cloth. Price \$3.50 net.

Venereal Disease. Its Prevention, Symptoms and Treatment. By HUGH WANSEY BAYLY, M. C., Hon. Secretary Society for the Prevention of Venereal Disease, Late Surgeon R. N. (Temp.); Medical Officer in Charge, Venereal Blocks, Rochester Row and Grove Military Hospitals, etc. Fourth (American) Edition. Philadelphia. F. A. Davis Company. 1930. Octavo of 242-xii pages. With three colored plates and 74 illustrations in the text. Cloth. Price, \$3.50 net.

Cancer of the Breast. By WILLIAM CRAWFORD WHITE, M. D., F. A. C. S., Junior Surgeon to the Roosevelt Hospital; Consulting Surgeon to the New York Nursery and Child's Hospital; Fellow New York Surgical Society. Harper's Medical Monographs. Harper & Brothers. New York and London. 1930. 12 mo. of 221 pages. Illustrated. Leatherette. Price, \$3.00.

President's Message

When the Medical Society of Virginia elected me its President, I determined to try to find out some of the needs of the profession, so that I might make suggestions which should be of practical service. Since that time, I have attempted to find out some of our difficulties, and the one which stands out foremost is the need of better local organization and cooperation. Medical societies have two distinct sides, the one scientific and the other business. The two, however, do not necessarily go hand in hand, and it is frequently better to try to take care of them in different ways, but each county will have to study out its problem and try to solve it in the best way possible.

The Constitution and By-Laws of the Medical Society of Virginia recognize this fact, and allow a combination of counties into Group Societies. Thus, Article III of the Constitution reads: "The State of Virginia shall be divided into component societies of one or more counties."

It, however, attempts to give representation to each county unit as shown in Article IV, Section 2 of the By-Laws: "Each component society shall elect annually to membership in the House of Delegates, one delegate and one alternate for each thirty-five (35) members or major fraction thereof, or as the component society may elect, one delegate and one alternate from each county in such component society. In any event, each component society is entitled to at least one delegate and one alternate in the House of Delegates."

From this by-law it can be seen that when two or more counties join into one society for the purpose of getting better scientific programs, each county is nevertheless entitled to its delegate. It appears, however, that some of these combination societies have not taken advantage of this privilege.

The State of Virginia, as we all realize, varies greatly in different sections. There are some counties which contain fairly large cities, other counties are very sparsely settled, indeed a county may be so small that it can barely support one physician. It is, therefore, totally impracticable to make one rule which will apply equally well to all of the county societies.

For our Scientific and Educational pro-

grams it is certainly advisable to have some of the counties of the State grouped into societies of two or more counties. But even then it is necessary to strictly individualize. It will be perfectly feasible in one instance to have the councilor district group as one society. In another case, such as the First District, it would be entirely impracticable.

When it comes to the question of business of the Medical Profession, our local societies take on an entirely different aspect. In this case, the scientific group society will not be able to function as well as the county unit, for each county has business problems of its own. To make myself understood better, I will specify a few such points. There are times, such as when the State Legislature is going to meet, when it is advisable that the Medical Profession interview the legislators, or better still the candidates for the Legislature, and try to impress them with the aims and needs of our profession, as local men are always much better able to reach the individual legislator, than the officers of the State Society. For this purpose the Medical Society of Virginia has attempted to have a local committee in each county. Such a committee should be appointed by the local society, and where appointed, these committees have been very efficient. The county society would likewise be of great service when an epidemic should appear. For it has been shown that the State Board of Health and the local Health Officer can act more efficiently when they have been able to get into contact with the local men through their society and get their cooperation. This was very beautifully shown in the epidemic of Polio which appeared in Roanoke last summer. Added to these two important functions, will arise more and more occasions in which the medical men practicing in a county will need to cooperate for their common good, as Organized Business and Labor Unions are continuing to press more hardly upon us. It will not be necessary for local units to meet often, they may even only meet at the session of their group society, when they can get together around a lunch table. At this time they can elect a president, a secretary and a delegate to the Medical Society of Virginia, one man, of course, being able to hold

two of these positions. This is being done by the county groups of the Post-Graduate Society, which apparently is working well. This meeting together, preferably at a meal, brings the doctors practicing in one county into closer touch, makes them understand each other better, and as a result tends to do away with unfortunate jealousies which are due largely to the fact that the men do not see each other often enough to realize their individual good points.

Such a type of organization appeals to me as a practical solution of our problem. I, however, would like to get an opinion from other men on the subject, and will gladly welcome any suggestions which the members of the Medical Society of Virginia may be willing to send me.

CHARLES R. GRANDY, M. D.,
President, Medical Society of Virginia.

Woman's Auxiliary, to the Medical Society of Va.

National Auxiliary to Meet in Detroit, Mich.

The annual meeting of the Woman's Auxiliary to the American Medical Association is to be held in Detroit, Mich., June 23 to June 27, 1930.

Dr. Rollin H. Stevens is General Chairman of the Convention.

Dr. Alexandria W. Bain is Chairman of Entertainment for the men.

Mrs. Burt Shurley has the entertainment for the ladies and has planned many enjoyable parties for their pleasure. Some of the outings include boat rides, motorcades, visits to Henry Ford's and Edsel Ford's estates, and others of interest.

Auxiliary Headquarters will be at Hotel Fuller, which is across the street from the Men's Headquarters at Hotel Statler.

Mrs. Basil L. Connelly is Local Chairman of all Auxiliary affairs in Detroit for the National.

All meetings, Registration, and a Subscription Luncheon will be held at Hotel Fuller.

The Local Auxiliary expects to give a party honoring Mrs. Wm. Gerry Morgan, the National Presidents and Officers of the Auxiliary.

TENTATIVE PROGRAM

Monday, June 23, at 2 P. M.

Executive Board meeting at Hotel Statler.

Tuesday, June 24, at 9:30 A. M.

General meeting at Hotel Fuller followed by luncheon at which the two A. M. Presidents, Dr. Malcolm Harris and Dr. Wm. Gerry Morgan and the five members of the Advisory Council will bring their messages of inspiration and advice to the Auxiliary.

Wednesday, June 25, at 9:30 A. M.

Educational meeting. Round table for State Presidents and Program Chairmen.

Election of Officers.

Thursday, June 26, 9:30 A. M.

Past Executive Board meeting.

10:30: Lantern Lecture, "Foreign Body and Lye Accidents" by Dr. Chevalier Jackson, of Philadelphia.

It is earnestly hoped that the women of Virginia will make every effort to attend this meeting in Detroit to "get the vision" of what other States are doing for the benefit of themselves, their homes, their States and for humanity.

The above report is from The National Social Committee of which Mrs. Southgate Leigh is Chairman and the following are the members:

Mrs. William Gerry Morgan, Washington, D. C.

Mrs. Olin West, Chicago, Ill.

Mrs. Walter Jackson Freeman, Philadelphia, Pa.

Mrs. Basil L. Connelly, Detroit, Mich.

Mrs. L. J. Harris, Jackson, Mich.

Mrs. Southgate Leigh, *Chairman.*

Study Programs for County Auxiliaries.

The Woman's Auxiliary to the American Medical Association, under the supervision of the A. M. A. Advisory Council, has prepared STUDY PROGRAMS FOR COUNTY AUXILIARIES, that they may assist actively in the promotion of Health Education programs under the direction of State, County and City Health Department Boards of Health and local Medical Associations. Ask your local Medical Society to give you a program of educational work which will assist them.

Common Defects in Children

WHY CORRECT PHYSICAL DEFECTS IN CHILDREN?

Why should communities spend money and time and energy to see that all their children

have good eyesight, normal hearing, healthy noses and throats, sound teeth, normal weight and correct posture?

The State health departments are eager to assist every county in the organization of work for the protection of the children of the community, in order that they may have a chance to grow up into strong, keen, alert men and women. No longer are children expected to grow up without scientifically balanced food. Special checks are made, in various localities, on their bodily conditions, to see whether they are functioning normally.

Soon every state will begin to realize that sound health and proper growth in children does not just happen, but that they have to be developed and encouraged and protected.

UNDERWEIGHT AND MALNUTRITION

Underweight and malnutrition are not by any means due to poverty. They are very often due to ignorance on the part of the parents. Malnutrition is two and a half times as prevalent in country children as in city children.

A much greater proportion of city than rural children have milk, eggs, green leaf vegetables (raw as well as cooked), and citrus fruits in their daily rations. There are actually on record cases of rural children who cannot have milk at home "because father says he needs it for the calves."

In an examination a few years ago of groups of Kansas City Children from different parts of the city, a greater proportion of malnutrition and underweight was found in one of the best residence sections than in the Italian district. The more fortunate (?) children were pampered and probably ate so much of sweets that they had no appetite for simple wholesome food.

Underweight in the school child may be due to improper feeding or to lack of rest and sleep at home. Some cases of underweight are due to infections such as those of the nose and throat. Connected with the underweight is usually faulty posture, but this faulty posture in most cases is due to lack of strength and to the lack of deep breathing. So in the group of underweight children one finds a few with specific infections such as tuberculosis, diseases of the nose and throat, chronic inflammation of the stomach and bowels; but for the most part such children have home condi-

tions to thank for their weakness, faulty posture and consequent ill health.

It is on account of the realization of all these facts that educators and physicians all over the world are asking for a periodic and thorough-going examination of all school children, and the correction of their defects and also the improvement of their home conditions.

This can be accomplished only by the wholehearted cooperation between the physician, the public health nurse, the teacher and the parent.

It is evident in view of these facts that any complete health program must include:

(a) The early discovery of these physical defects in children, and

(b) The securing of their correction by scientific medical care, or when necessary, surgical intervention.

EARS

A few years ago 7,500 children in Chicago schools were examined and 3.6 per cent were found to have some form of ear disease. It was estimated that at that rate Chicago probably had 15,000 in the city schools similarly afflicted. Other cities making similar tests report about the same percentage.

The prevalence of deafness in the United States is appalling. Most cases start in childhood, and the sad thing about the situation is that with proper care 80 per cent of the cases of deafness might have been avoided.

Little can be done for the child who is deaf as the result of syphilis or meningitis. Sometimes a severe mastoid operation leaves deafness, for which nothing can be done. But much can be done for the child who has become deaf as a result of the contagious diseases, from repeated colds in the head, from frequent earache, or from blowing his nose improperly, from stoppage of the eustachian tube (the tube going into the ear from the throat), or because of diseased tonsils and adenoids.

But from whatever cause, the child who does not hear well must first be discovered, and when he is discovered, he must be given scientific care. EIGHTY PER CENT OF THE CASES CAN BE CURED, BUT ONLY IF TREATED EARLY.

(To be Continued)

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Continuation Education for Practitioners.

The distinctive features of the constructive work being done for the Continuation Education of Practitioners in Virginia, are first, definite plans to bring the advances of modern medical progress to those necessarily out of contact with recent scientific developments, and second, thus reflexly stimulate scientific interest throughout the profession in Virginia, which will mobilize more unitedly increased interest in scientific medicine and in our State Society, and thus ultimately necessitate thoroughly organized courses in Post-Graduate instruction in our two Medical Colleges.

This is in no sense a dream, nor impossible, for already, due to these activities and others being instituted along different lines by the component societies, there has been noted a very decided improvement in professional zeal for greater and more unified interest in medicine in different sections of the State. Regular Society meetings are being more largely attended, and everywhere is manifest a greater desire, not only to acquire more knowledge of current scientific interest, but to share these advantages with others less fortunately situated.

This is but the beginning of the end, for it seems that the medical profession is being aroused to the necessities of its own aims more universally than has been noticeable in recent years. The class of work reported at many of the regular County meetings is also of a higher standard, and professional tendencies are eminently on a better plane of endeavor and accomplishment.

After trial of different methods, the demonstration clinics of different diseases, with diagnostic differences stressed, have been found to be the most concise and comprehensive method of instruction. These conference meetings with exhibition of the disease-expressions in the clinic patients appear to be also, the most favored by attending physicians.

It seems particularly fortunate that this Department is able in some measure thus to aid and accentuate this movement for the better equipment of our practitioners throughout the State, but it needs and requests the earnest support of each Society member. The only return asked by this Department is that ac-

knowledgment of the cooperation be made on all printed announcements by local county or group societies.

SCHEDULED MEETINGS

—The Graduate Clinics at the University Hospital, are being held on May 1st, 2nd and 3rd, as this issue goes to press. These will be diagnostic and therapeutic clinics and will be given by members of the medical faculty of the University of Virginia.

This Department has been pleased to co-operate with the University Faculty, and is confident that this fifth session in the series of Post-Graduate Clinics given at this institution, has been of great interest and value, as all the former ones have been, to the attending physicians and surgeons.

—Beginning on Monday, May 12th, at 8 P. M., a series of Graduate Clinics will be held by the Medical College of Virginia, continuing throughout the two following days. The introductory address on the occasion will be delivered by Dr. William J. Mayo, Rochester, Minn., at the John Marshall High School Auditorium, at 8:30 P. M. This address will be the first annual Stuart McGuire lecture, established by the Medical College of Virginia in recognition of Dr. McGuire's services to the institution, to medical education and to surgery, and will initiate the clinic series. On May 13th and 14th, the college will conduct a series of post-graduate clinics, to all of which a most cordial invitation to attend, is extended all members of the medical profession. These clinics will emphasize surgery with special reference to the general practitioner and are arranged as follows:

Tuesday, May 13, 1930

- 10:00 A. M.—Surgery as Practiced by the General Practitioner. Dr. Hubert Royster, Raleigh, N. C.
- 10:30 A. M.—Transportation of Injured. Dr. C. M. Scott, Bluefield, W. Va.
- 11:00 A. M.—Management of Injuries of Hands and Forearms. Dr. M. A. Johnson, Jr., Roanoke, Va.
- 11:30 A. M.—The Treatment of Infections of the Extremities; Also Boils and Carbuncles. Dr. Joseph T. Buxton, Newport News, Va.
- 12:00 M.—Burns. Dr. F. S. Johns, Richmond, Va.
- 12:30 P. M.—Leg Ulcer. Dr. Hugh Trout, Roanoke, Va.
- 1:00 P. M.—Luncheon and visits to laboratory, museums and wards.
- 3:00 P. M.—First Aid Treatment of Wounds of Head,

- Face and Jaws. Dr. C. C. Coleman, Dr. Guy Harrison, Richmond, Va.
- 3:30 P. M.—Injuries of the Eye. Dr. Hunter McGuire, Winchester, Va.
- 4:00 P. M.—Treatment of Acute Infections of the Ear, Nose and Throat, Including Middle Ear Disease and Peritonsillar Abscess. Dr. Harry Stone, Roanoke, Va.
- 4:30 P. M.—Round Table Discussion.

Wednesday, May 14, 1930

- 10:00 A. M.—Use of Aspiration and Puncture Needles in the Chest, Abdomen, Joints and Spine. Dr. William B. Porter, Richmond, Va.
- 10:30 A. M.—Local and Regional Anesthesia. Dr. E. S. Boice, Rocky Mount, N. C.
- 11:00 A. M.—Uses of Plaster and Splints. Dr. B. H. Kyle, Lynchburg, Va.
- 11:30 A. M.—Prevention of Deformities Following Poliomyelitis. Dr. D. M. Faulkner, Richmond, Va.
- 12:00 M.—Acute Abdomen. Dr. W. L. Peple, Richmond, Va.
- 12:30 P. M.—Gunshot and Other Penetrating Wounds of the Trunk. Dr. Carrington Williams, Richmond, Va.
- 1:00 P. M.—Luncheon.
- 2:00 P. M.—Treatment of Shock in the Home. Dr. Bolling Jones, Petersburg, Va.
- 2:30 P. M.—Immediate Treatment of Laceration of the Birth Canal. Dr. H. H. Ware, Jr., Richmond, Va.
- 3:00 P. M.—Methods of Examination of the Rectum and Anus. Dr. E. H. Terrell, Richmond, Va.
- 3:30 P. M.—The Use and Abuse of Urethral Instrumentation. Dr. R. C. Bryan, Richmond, Va.
- 4:00 P. M.—Round Table Discussion.

Registration—The headquarters for the clinics will be located in McGuire Hall, 12th and Clay Streets, where those who will attend are requested to register. Clinic programs and other information will there be available and direction will be given to the several buildings where the clinics will be held. Registration will begin at 9:00 A. M.; no fee will be charged.

The Department of Clinical Education of the Medical Society of Virginia, which is co-operating with the College, hopes that the subject-matter of this class of clinics as well as the variety and continuity of clinical thought and its application, will appeal generally to the profession, and that there will be a large attendance.

—At a later date, a combined clinical and scientific meeting will be held in the Northern part of the State, probably at Harrisonburg, and another at a still later date at Roanoke.

—It is hoped, also, next Fall to have similar meetings at Fredericksburg, Lynchburg, and Roanoke, and several other meetings in various thickly populated county districts of the State.

—It appears now that, by request, meetings

will be held next year at every point where they have already been held, and this is not only encouraging, but distinctly expressive of their value and interest to the profession.

ADDITIONAL MEETINGS

The following programs have been sent the MONTHLY, with the statement that all doctors are invited and will be welcome at all meetings:

—**ROANOKE ACADEMY OF MEDICINE:** President, Dr. J. D. Willis, Roanoke; *Secretary*, Dr. Charles A. Young, Roanoke: *May 23, 1930.* Dr. Charles F. McCuskey, of the Mayo Clinic, Rochester, Minn., will be an invited guest and his subject will be "Anesthesia." Meeting will be held at the Elk's Club.

—**RICHMOND ACADEMY OF MEDICINE:** *President*, Dr. Wm. H. Higgins, Richmond; *Secretary*, Dr. Mark W. Peyser, Richmond; *Chairman Program Committee*, Dr. Finley Gayle, Richmond: *May 13, 1930.* Papers by Dr. Karl Blackwell, Richmond, and Colonel William L. Keller, of Walter Reed General Hospital, Washington, D. C., and

May 27, 1930. Papers by Dr. Walter Freeman, of St. Elizabeth's Hospital, Washington, D. C., and Dr. Ambrose McGee, Richmond.

RECENT MEETINGS

Elsewhere under "Proceedings of Societies" will be found reports of the recent meetings held at Norfolk and at South Hill, written by their respective secretaries.

—The meeting just held in Richmond by the Richmond Academy of Medicine, and sponsored by this Department, was a valuable training school for all who attended.

In the various demonstrations and clinics held, it was particularly noticeable that the different lecturers and clinicians, spoke not so much as specialists, as they did as teachers and practical physicians, thus exemplifying the high art and genius of scientific instruction. Only the main features, pathologic and diagnostic, were discussed, and "the attentive student," to quote our beloved John Staige Davis of other days, could not fail to be impressed, and remember at least the distinctive and salient points of each case illustrated.

The attendance was large, but not as many nearby out-of-town physicians were present as could have been desired, but there was a number of practitioners present from more distant parts of the State.

The program was as follows:

Afternoon Session

- 2:00 P. M.—Demonstration of Electrocardiograph. Dr. Bond and Miss Read.
- 2:15 P. M.—Demonstration of Basal Metabolic Apparatus. Dr. Bond and Miss Read.
- 2:30 P. M.—Neuro-Surgical Clinic. Dr. C. C. Coleman and Dr. J. G. Lyerly.
- 2:45 P. M.—A Discussion of Secondary Anemia. Dr. D. C. Ashton.
- 3:00 P. M.—The Principle of Goldberger's Treatment of Pellagra. Dr. Jas. H. Smith.
- 3:15 P. M.—Demonstration of Neurologic Cases. Dr. Finley Gayle, Jr.
- 3:30 P. M.—Operative Treatment of Pericardial Adhesions. Dr. F. S. Johns.
- 3:45 P. M.—Carcinoma of the Stomach. Dr. J. S. Horsley, Sr. Constructive Surgery of the Face. Dr. J. S. Horsley, Jr.
- 4:00 P. M.—Cerebro-Spinal Syphilis. Dr. Beverley R. Tucker.
- 4:15 P. M.—A Demonstration of Pelvic Measurements. Dr. Greer Baughman.
- 4:30 P. M.—Treatment of Pneumonia in Infants. Dr. B. B. Jones.
- 4:45 P. M.—Cholecystography. Dr. D. D. Talley.

Night Session

- Case Report—Paroxysmal Ventricular Tachycardia. Dr. J. Morrison Hutcheson.
- Paper—The Specific Treatment of Erysipelas. Dr. H. L. Amoss, Invited Guest, Duke University, Durham, N. C.
- Paper—Tardy Symptoms of Congenital Lesions. Dr. O. H. Perry Pepper, Invited Guest, University of Pennsylvania, Philadelphia.

—On Saturday, April 26th (too late to be reported in this issue), the Clinch Valley Medical Association held its Spring meeting at Richlands, near the Kentucky line. Dr. Isaac Pierce, Tazewell, President, Dr. C. B. Bowyer, Stonega, Secretary, and Dr. W. R. Williams, Chairman of local Committee of Arrangements.

This Department aided in arranging the program, and Dr. Manfred Call, a member of the Department of Clinical Education of the State Society, was present as an observer, while Dr. Chas. R. Grandy, President, represented the Society, and made an address at the morning session.

The afternoon session was devoted to the following program:

Meeting Called to Order 1:00 P. M.

- 1:00 P. M.—"Pneumonia and Its Complications." Dr. James C. Flippin, Dean Clinical Medicine, University of Virginia. Discussion.
- 2:00 P. M.—"The Gall-Bladder." Dr. Stuart McGuire, McGuire Clinic, Richmond. Discussion.
- 3:00 P. M.—"Some Neglected and Some Debatable Practices in Obstetrics." Dr. Benj. H. Gray, Stuart Circle Hospital, Richmond. Discussion.
- 4:00 P. M.—"Clinic-Pediatrics." Dr. Lawrence T. Royster, Department of Medicine, University of Virginia. Discussion.
- 5:00 P. M.—"Evolution of a Health Department." Dr. Ennion G. Williams, State Health Commissioner, Richmond. Discussion.

SPECIMEN LETTERS

The following sub-joined letters are inserted in these columns in order that the members may see some of the methods used by this Department in aiding those local societies that request cooperation in holding meetings.

The Department also aids in selecting lecturers or clinicians if desired, in addition to the local speakers, or in any other way requested.

The dominant idea is simply to aid and cooperate, only as requested, and to inform by follow-up letters, all of the surrounding physicians of the opportunities being offered by the local society.

Later, other means of Continuation Education for Practitioners will be stressed and used.

As a specimen of a recent letter written in regard to holding a meeting in a specified location, the following example is given:

"Our Department of Clinical Education wishes to join with your local Society in putting on a combined clinical and scientific meeting sometime this Spring or Summer, if it is agreeable to your local Faculty, and I am writing to ask you to look over the ground, and see what you think the reaction of the profession in and around your city would be to this action on the part of the Medical Society of Virginia.

We simply wish to be of assistance, not dictating in any sense, but co-operating in the fullest measure. If you happen to have the last two issues of the MONTHLY, you will see about what we are trying to do, and our object ultimately is to arouse enough interest to be able to carry the advances of modern medicine to all practitioners out of reach of contacts, and in the future reflexly benefit the State Medical Society, and arouse a sentiment from the profession that will ultimately tend to the establishment of regularly organized post-graduate courses in our medical colleges.

If you feel that your local members, either as a local Society, or in conjunction with neighboring local groups, could have a clinical meeting, such for instance, as you will see noted for April 26th, at the Clinch Valley meeting, or the Richmond meeting on April 22nd, we would appreciate hearing from you at your earliest convenience."

As a specimen of a follow-up letter after meeting place and date have been determined, a copy of the following most recent letter is offered, signed by the Acting Executive Secretary:

"TO THE PROFESSION:

The University of Virginia, as announced, will hold Graduate Clinics at the University Hospital on May 1st, 2nd and 3rd.

This will be the fifth in a series of such post-graduate clinics, and offers an unusual opportunity to study the approved advances of Modern Medicine.

All of these former clinic series have received general commendation from the profession, one of the late Presidents of the State Society, who had

attended three of the preceding clinics, having remarked recently: 'Nothing in recent years has helped me so much professionally as those clinics.'

The Department of Clinical Education of the Medical Society of Virginia heartily endorses this method of Continuation Education for Practitioners, especially by such eminent teachers, and hopes that a large number of the State Society members will take advantage of the clinical privileges thus offered.

If possible, arrange now to attend all three days—it will benefit both yourself and your patients.

Respectfully,

ACTING EXECUTIVE SECRETARY.

Date—May 1st, 2nd, 3rd, 1930.

Place—University Hospital"

The above are given, and repetitions have been frequently made in these columns, because this Department, the servant of the Society, is anxious that every member of the State Society shall thoroughly understand its methods and aims, and understanding, shall join hands and hearts in appreciative interest and sympathetic personal help.

INFORMATION

All members of the State Society are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Acting Executive Secretary, Mr. George W. Eutsler, P. O. Box 707, University, Va., or to the Chairman of the Department of Clinical Education, 5 East Franklin Street, Richmond, Va.

The Truth About Medicine

In addition to the articles enumerated in our letter of February 21, the following have been accepted:

Eli Lilly & Co.

Merthiolate Jelly, Lilly.

Merthiolate Ointment, Lilly.

E. R. Squibb & Sons

Squibb's Dextro-Vitavose.

Frederick Stearns & Co.

Synephrin

Synephrin Solution "A"

Ampoules Synephrin—Procaine, 3 c.c.

Hypodermic Tablets Synephrin—Procaine.

The following article has been exempted and included with the List of Exempted Medicinal Articles (New and Non-official Remedies, 1929, p. 481):

G. D. Searle & Co.

Stable Solution Dextrose and Sodium Chloride (Searle).

NEW AND NON-OFFICIAL REMEDIES

Butesin Picrate Eye Ointment.—An ointment containing 1 per cent of butesin picrate (New and Non-official Remedies, 1929, p. 54), in a petrolatum base. Abbott Laboratories, North Chicago.

Pneumococcus Antibody Solution, Types I, II and III Combined—Mulford. (New and Non-official Remedies, 1929, p. 346).—This product is also mar-

keted in packages of four 50 c.c. double-ended vials with one complete intravenous outfit. H. K. Mulford Co., Philadelphia.

Ampules Dextrose (d-Glucose) 10 Gm., 20 c.c.—Each ampule contains dextrose (New and Non-official Remedies, 1929, p. 240), 10 Gm., in distilled water, to make 20 c.c. Lakeside Laboratories, Inc., Milwaukee, Wis.

Ampules Sodium Cacodylate 0.243 Gm. (3¼ grains), 5 c.c.—Each ampule contains sodium cacodylate (New and Non-official Remedies, 1929, p. 73), 0.243 Gm. (3¼ grains), in 5 c.c. of solution. Lakeside Laboratories, Inc., Milwaukee, Wis. (Jour. A. M. A., March 1, 1930, p. 634).

Squibb's Dextro-Vitavose.—A mixture of Squibb's vitavose (New and Non-official Remedies, 1929, p. 244), 1 part, and dextrose, 2 parts. E. R. Squibb & Sons, New York. (Jour. A. M. A., March 29, 1930, p. 920).

PROPAGANDA FOR REFORM

New Treatments for Cancer.—Hanson reports results closely resembling those described by Coffey and Humber, following the administration of thymus extract. Sokoloff reports similar results following the use of an extract of the suprarenal combined with iron. Charlton announces lytic effects on cancer cells following the administration of an extract of the omentum. The interest of the Coffey-Humber method, in its present stage of investigation, lies primarily in the fact that the available evidence seems to demonstrate a definite effect on cancer tissue as the result of injecting suprarenal extract into the body at points removed from the tumor. (Jour. A. M. A., March 1, 1930, p. 639).

Cascara-Agar Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that, under the name "Cascara-Agar," the Reinschild Chemical Co. markets a preparation stated to contain "15 per cent of a watery percolation of two-year-old cascara bark, which is processed into No. 1 Agar, cut to size" and is recommended for use in constipation. It is stated on the trade package that the preparation is: "A harmless vegetable addition to breakfast food. Each teaspoonful contains a mild and specially prepared solution of Cascara Tea." Since no statement as to the amount of cascara contained in the product was given, the firm was asked to make a plain statement of the constituents of the product. The firm replied giving the method of preparation of the product. However, since no details were given as to the method used to "de-bitter" the cascara, one cannot say how much of the active principle of cascara was lost in the process of preparation and therefore the amount of cascara in a given quantity of the finished product cannot be judged. Experiments carried out lead to the conclusion that "Cascara-Agar" contains at most only a trace of cascara, and that it is misleading to call the preparation "cascara-agar." Information was received that the Reinschild Chemical Co. still markets "Regulin," a product which has been stated to be prepared in the same manner as is "Cascara-Agar." Since the Council does not accept an article under one name if an essentially similar product is marketed by the same firm under another name, this makes "Cascara-Agar" further objectionable. The Council declared "Cascara-Agar" unacceptable because it is an indefinite mixture marketed under a misleading name with unwarranted therapeutic claims, and because an essentially similar product is marketed by the same firm under another name. (Jour. A. M. A., October 26, 1929, p. 1309.)

Virginia Medical Monthly

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VOL. 57

MAY

No. 2

Editorial

Vitamins and Deficiency Disease States.

There are well recognized diseased entities, produced in animals, which are due to inadequate feeding of vitamin complexes in food material. These animals present serious gross disturbances and pathological changes. In the instance of a twenty-eight day old white rat, no vitamin A was given for succeeding fifty-three days, with the result that the animal weighed at this period only fifty-six grams and showed marked changes on the eyelids, typical xerophthalmia and swellings of the glands of the neck, while a litter mate of this rat, of the same sex, weighed 123 grams, was healthy, normal, having had an abundance of vitamin A in the diet. Also a rat fed on a diet containing no vitamin B showed at sixty-four days a weight of forty-two grams, while a mate fed on an abundance of vitamin B showed a weight, at a like age, of 178 grams. Further, it was noted that vitamin B₁ (or F) deficiency at twenty-eight days showed, besides loss of weight, a spastic paralysis or polyneuritis and, remarkable to say, a course of feeding of substances rich in vitamin B₁ in twenty-four hours was characterized by a relief of these signs. Again, vitamin B₂ (or G) deficiency in a rat, age thirteen weeks, was shown twenty-nine weeks later by a thinness of the fur, especially on the back, neck and sides of the face, and by sores on the eyes and mouth like those seen in human pellagra. Scurvy was shown in a guinea pig that had been fed on a diet containing no vitamin C. In such an animal, with this deficiency disease, one notes rough fur, lack of vigor, and underweight.

Such gross changes, resulting from inadequate administration in food material wanting in necessary vitamin, are not so easily produced in the human but the growth and development of the young human and the protection against infection and well-being of the adult human, both in middle life and old age, depend in no small way upon the persistent and adequate use in daily dietary regimens of an assortment of vitamins. The dietary balance of carbohydrate, protein, fats and salts is commonly recognized by medical men as necessary for the proper production of heat and energy and physical well-being, but the vital part played in animal life by the vitamins is not sufficiently understood. There must be a wide range of functional disturbances brought about by inadequate vitamin feeding that had not come to the attention of practitioners. If gross changes, such as exophthalmia, polyneuritis, pellagra, scurvy and rickets, appear as deficient diseases in the human, there must exist a state of serious disturbance to the physical sensibilities of the patient prior to the establishment of such advanced pathologic phenomena. It seems then quite obvious that there are probably a large number of young humans, as well as adults, that go through life struggling against an unseen but real vitamin deficiency.

VITAMIN A OR FAT SOLUBLE A

This substance is essential for normal nutrition and its absence from food brings about a "deficiency" in the animal. It is essential for growth of the baby, and for well-being at all ages and for reproduction. A deficient supply brings about weakening of the tissues of the body. A lack of it renders one more susceptible to bacterial infection, particularly in the epithelial tissues of the body. A total absence of vitamin A in the diet of an animal is followed by certain definite and characteristic pathological changes in these membranes. The eye, for instance, in its total abstinence from daily food supply, suffers from xerophthalmia (dry ophthalmia), atrophic conjunctivitis and dry and lusterless eyeballs. Besides there may be inflammatory and pus formations in ears, sinuses, lungs, skin and bladder. These are often exemplified in animals but are probably in the human body to a more or less degree. A fortunate power of the body is possessed in being able to store this vitamin so that an abundant supply of it, acquired in foods dur-

ing early life, safeguards the body against infections of later life. But observers maintain that vitamin A is not only needed by the young for growth and well-being but also for lactation and reproduction, as well as for resistance against infection in adult life. In the rat, a long time feeding of a liberal amount of vitamin, through succeeding generations has demonstrated increased benefits of growth, strength and well-being. The richest sources of vitamin A are milk and dairy products, eggs, liver and leafy vegetables. The green vegetables are a better source of supply than the white vegetables, for instance, green lettuce is much richer than white lettuce, green asparagus than bleached, yellow than white corn. The following foodstuffs show the "strength" of vitamin A supply: bananas+ to ++; cantaloupes++; cherries (canned)++; orange juice++; pineapple++; asparagus++; beans++; beets++; carrots+++; collards+++; lettuce leaves (green)+++; peas (green)++; spinach+++; tomatoes ++; watercress+++; cheese+-+ to +++; egg yolk+++; liver++ to +++; cow's milk+++; oysters++; bread (whole wheat milk)++; corn (yellow)++; rye germ++; beef fat++; butter++; beef kidney++; cod liver oil+++; cream+++; fish liver oils+++; olive oil+; peanuts+; pig kidney fat+; salmon oil++.

VITAMIN B OR WATER SOLUBLE B

Formerly known as water soluble B, vitamin B is now known as vitamin B complex, because it is now known, not as a single substance, but as being made up of at least two independent vitamins. The one was found essential for stimulation of appetite and promotion of growth in rats and other mammals, and this is the antineuritic vitamin; the other is more stable, possessing other properties.

There is at present some want of agreement among investigators concerning the terms to be used in describing these "B vitamins," while the British observers retain the term B for vitamin B complex, by using the term B₁ for the heat-unstable factor which is antineuritic and the term B₂ for the heat-stable factor which is sometimes known as antipellagric vitamin. In connection with this matter of terms, under vitamin B, the American Society of Biological Chemists recently suggested that vitamin B₁ be vitamin F (or antineuritic) and B₂ be vitamin G (antipellagric).

It is interesting to practitioners to understand the bearing of vitamin B₁ in diet in that it is water soluble and is essential for the prevention of polyneuritis in pigeons and fowls and rats, and "possibly beriberi in man." Storage of vitamin B₁ (F) in the body is limited and hence the diet should contain an abundance of vitamin B₁ (F) at all times. In lactation, vitamin B₁ (F) is essential and foods rich in it should be taken by the nursing mother.

Now, vitamin B₂ (G) is relatively heat-stable and a deficiency of this vitamin from food of rats results in retardation of growth and loss of weight; later soreness of the eyes and mouth, and nervousness, irritability, weakness and lethargy appear. These symptoms are followed by diarrhea. These and other symptoms in the rat resemble pellagra in the human. Evidence to prove similarity of these processes is not complete but suggestive. Owing to the difficulty in securing a satisfactory source of vitamin B₁ (F) entirely free from vitamin B₂ (G) says our author of reference, few foods have been tested for the relative distribution of these two vitamins of the B complex. But it may be said that cereal grains appear to be relatively rich in vitamin B₁ (F) and poor in vitamin B₂ (G), while cow's milk and green leafy vegetables are richer in vitamin B₂ (G) than in vitamin B₁ (F).

It is important to remember that the work in this field shows that vitamin B complex is essential for growth and well-being at all ages and especially essential for lactation and should abound in the diet at all times.

It will interest readers to note the foods possessing vitamin B and an indication of the richness of the food in that factor of protection: wheat germ+++; wheat germ extract +++; whole wheat++; rye whole++; rice, polished, polishings and unpolished (brown)++; corn, yellow, whole++; corn, yellow, germ meal++; whole wheat bread ++; tomato, concentrated+++; tomatoes, ripe++; sweet potatoes (raw)++; cooked spinach+; dried spinach++; potatoes, baked or raw++; peas, green, cooked+ to ++; beans++; asparagus, green, raw+++; (cooked 0); prunes++; pineapple++; pears+ to ++; orange juice++; grapefruit ++; lemon juice++; cantaloupes++; apples, raw, fresh+; cabbage++; carrots ++; celery (bleached)++; lettuce++;

okra+++; parsnips+++; brains++: cheese+++; ham++; liver+++; cow's milk+++; oysters+++; cream++; peanuts++: yeast++ to +++.

VITAMIN C

This is the antiscorbutic vitamin. Absence of vitamin C from the diet of a guinea pig leads to scurvy. Soreness of gums, looseness of teeth, fragility of bones follow. In children lacking in this vitamin, irritability and lack of stamina, want of normal growth, and deficiency in resistance to infectious diseases are symptoms frequently appearing. While cereal grains and legumes are deficient in this vitamin, if allowed to sprout they show a fairly rich amount of it. Vitamin C is found abundantly in citrus fruits, raw cabbage, turnips, and tomatoes (raw, cooked or canned). And as the body stores this vitamin very slightly, diet should include vitamin C at all ages.

One may note the foods which supply vitamin C; apples+ to ++; bananas+++; cantaloupes+++; grapefruit+++; lemon juice+++; lime juice++; orange juice+++; peaches, canned+ to ++; raspberries++: tangerines++++; cabbage, raw++; carrots++: lettuce++++; onions, raw++: peas, green (sprouted)+++; pepper, green++; spinach+++; tomatoes, concentrated+++; water cress+++.

VITAMIN D—THE ANTIRACHITIC VITAMIN

Cod liver oil as a corrective of rickets was thought to possess a rich supply of vitamin A, but it is now held that the property of promoting assimilation of calcium and phosphorus, thus controlling bone development, rests with another fat soluble vitamin; named vitamin D. Late action of sunlight or ultraviolet light in bone development, in connection with cod liver oil feeding, leads to the knowledge that various food materials can be given antirachitic properties by adequate ultraviolet irradiation. Ergosterol in these foods, under sunlight, becomes antirachitic. As ergosterol is present in the skin, sunlight appears to form vitamin D from skin.

The problem of rickets as well as teeth in development and bone well-being are involved here. Milk and dairy products contain a small amount of vitamin D, but cod liver oil, under proper sunlight influences, serves as the best of all natural resources of vitamin D as it does of vitamin A.

VITAMIN E

Vitamin E is the reproductive vitamin or the anti-sterility vitamin. While it is practically absent from cod liver oil, it is present in vegetable oils. One author notes that it is richest in oil of wheat embryo, and is also found in fresh lettuce; also in lesser degree in animal tissue, while milk and butter contain small amounts. This vitamin seems to play an essential part in placental function.

NOTE: For fuller description and elaborate references: *Vitamins in Food Materials*, by Sybil L. Smith, U. S. Department of Agriculture, Circular No. 80.

News Notes

The American Psychiatric Association

Holds its 87th annual meeting in conjunction with the First International Congress on Mental Hygiene, May 5th to 9th, inclusive, at Hotel Willard, Washington, D. C. Dr. Earl D. Bond, Philadelphia, is president of the American Psychiatric Association, and Dr. William A. White, Washington, D. C., of the International Congress on Mental Hygiene. The secretary of the Psychiatric Association is Dr. Clarence O. Cheney, Poughkeepsie, N. Y., and the secretary of the Congress on Mental Hygiene is Mr. John R. Shillady, New York City.

A summary of the objects and plans and program of the Congress has already been published in the MONTHLY. On the program of the Psychiatric Association are subjects that are of as much interest to the general practitioner as to the psychiatrist or neurologist, which is an indication of the broadening aspect with which disorders of the mind are being considered, and which proves that psychiatry is not an isolated specialty, but that it is an integral part of the domain of general medicine.

The American Psychiatric Association having been organized in 1841 is one of the oldest national medical organizations in this country. Among the founders of the association were Dr. Francis T. Stribling, who was Superintendent of the Western State Hospital at Staunton, Va., and Dr. John Galt, the Superintendent of the Eastern State Hospital, at Williamsburg, Va., who was also one of the original thirteen members. Its present membership is about 1,350. In this membership are included practically all the psychiatrists.

rists and neurologists in this State. It was organized as the association of Superintendents of American Institutions for the Insane. In 1892 the name was changed to the American Psychological Association, and in 1921 to its present name. Two Virginians have filled the office of president of the Association—Dr. Robert J. Preston, 1902, while Superintendent of the Southwestern State Hospital, at Marion, and Dr. William F. Drewry, 1910, while Superintendent of the Central State Hospital at Petersburg.

The Association has held several annual meetings in Virginia: At Staunton 1869; Fortress Monroe 1888 and 1915; and at Richmond 1900 and 1925.

University of Virginia Medical News.

At the Founder's Day exercises on April 12th, President Alderman announced that a sum of \$200,000.00 had become available for building and equipping a Nurses' Home. Work on this new building, to be erected south of the hospital, will proceed at once.

The American Association of Anatomists held its forty-sixth session at the Medical School on the three days of April 17th to 19th. About 225 anatomists were in attendance. The American Association of Physical Anthropologists also met here at the same time.

On April 26th, Dean J. C. Flippin and Dr. Lawrence T. Royster spoke before the meeting of the Clinch Valley Medical Society, at Richlands, Va. The meeting was held under the auspices of the Department of Clinical Education of the Medical Society of Virginia. Dr. Flippin's subject was Pneumonia and its Complications. Dr. Royster spoke on Digestive Disorders of Childhood.

Dr. Duckett Jones, Instructor in Medicine at the Harvard Medical School, and research fellow at the Good Samaritan Hospital, Boston, spent the week of April 6th at the Medical School.

On April 26th, Dr. Graham Lusk, Professor of Physiology in the Cornell Medical School and Director of the Russell Sage Institute, visited the Medical School. He addressed the first and second year classes on the development of the science of nutrition.

Dr. E. R. Lampson, attending surgeon at the Hartford Hospital, visited the Medical School on April 26th.

Dr. H. E. Jordan spoke at the annual dinner of the Washington Chapter of the Alumni Association on May 2nd.

The fifth Post Graduate-Clinics of the Uni-

versity of Virginia Department of Medicine were held at the Medical School from May 1 to 3.

Dr. Clarence E. McClung, Professor of Biology at the University of Pennsylvania, and Managing Editor of the Journal of Morphology and Physiology, will give the address on the occasion of the public initiation ceremonies of Sigma Xi on April 16th. The Medical Faculty initiate is Dr. D. C. Smith.

Dr. W. H. Goodwin will address the University of Virginia Medical Alumni, of New York City, on the night of May 16th.

Dr. W. T. Sanger, President of the Medical College of Virginia, gave the principal address at the graduation exercises of the University of Virginia Hospital Training School for Nurses, on May 8th.

The White House Conference.

Primarily interested in the conservation of national resources, combined with his consistent interest in the cause of children, President Hoover, last July, called the first meeting of the Planning Committee of the White House Conference on Child Health and Protection. The purpose of the Conference is: to study the present status of the health and well-being of the children of the United States; to report what is being done for child health and protection; and to recommend what ought to be done and how to do it.

Secretary Ray Lyman Wilbur of the Department of the Interior is chairman of the Conference, and Dr. Harry E. Barnard, of Indianapolis, is its director. The personnel of its sections has been chosen from the leaders of the nation in child welfare, and its great number of committees is arranged with such scope that every branch of scientific knowledge regarding children and their care may be reported.

The Conference has been divided into five sections, each subject to be studied in its relation to children's health and success: Medical Service, Public Health Service and Administration, Education and Training, The Handicapped Child (Prevention, Maintenance, Protection), and Public Relations. More than seven hundred experts are serving on these committees. It is probable that a second full meeting may be called in November of this year, for presentation of findings ready at that time.

Reunion of Internes and Nurses.

St. Luke's Hospital, Richmond, Va., was es-

tablished in 1882. The Training School for Nurses was organized in 1886. During the forty-eight years of the hospital's existence it has had over one hundred internes and has graduated over three hundred nurses.

It is planned to have a reunion of the ex-internes and the graduate nurses at the time of the next Commencement of the Training School which will be on May 24, 1930. The arrangements for the meeting are now in the hands of a committee consisting of Dr. W. Lowndes Peple who represents the ex-internes and Mrs. Stuart McGuire who represents the nurses. The programme has not been worked out in all of its details but will consist essentially in a joint luncheon given at the residence of Dr. and Mrs. Stuart McGuire, in separate meetings of the internes and nurses in the afternoon at the hospital, and in the commencement exercises and ball in the evening at the Commonwealth Club. While in Richmond the visiting internes and nurses will be the guests of their former professional associates who live in the city. The occasion promises to be a most enjoyable one.

Married.

Dr. James L. Hamner, Mannboro, Va., and Miss Rebecca Sydnor, of Marlinton, W. Va., April 17th.

Dr. Ernest C. Fisher and Miss Mary McCaw, both of Richmond, Va., April 12th.

Dr. John Staige Davis, Jr., son of Dr. and Mrs. John Staige Davis, of University, Va., and Miss Camilla Ruth Cole, daughter of Dr. and Mrs. Rufus Cole, of New York City, April 26th. Dr. Davis is an alumnus of the University of Virginia, Department of Medicine, class of '25.

Dr. Webster Parker Barnes, class of '26, Medical College of Virginia, and Miss Emmie Mae Marsh, both of Richmond, April 7th.

Dr. Barton Bates McCluer, Bon Air, Va., and Miss Virginia Allen Chapin, Richmond, Va., April 30th.

Stuart Circle Hospital to Build Home for Nurses.

A modern three-story nurses' home, costing approximately \$100,000, will be erected by the Stuart Circle Hospital, Richmond, Va. A new unit of the hospital, consisting of an operating suite and laboratories, will be built at the same time. The nurses' home will be of brick construction and will be modern in every respect with rooms for about eighty nurses, a matron and several guests' rooms. The home

will also include a gymnasium, infirmary, living room, reception rooms and library. An interesting feature will be the enclosed grass court with fountain, on which the living and recreation rooms will open and which will serve as an outdoor living room during the summer.

The addition to the hospital of the operating suite and laboratory will be the first step in the construction of an entire new section planned to enlarge the hospital facilities. When the present plans are completed the hospital will have a capacity of 125 patients.

Work will start on the new addition on September 1, 1930, and will be completed about September, 1931.

Dr. Herbert C. Jones,

Petersburg, Va., has been elected president of the Petersburg Rotary Club, and will enter upon his duties on July 1st.

Dr. Ashby G. Martin,

New York City, class of '25, Medical College of Virginia, has been appointed assistant attending surgeon, Ear, Nose and Throat Department of St Luke's Hospital, that city.

Dr. Thomas P. Darracott,

Tunstall, Va., received minor cuts and bruises, when knocked down by an automobile in Richmond on April 24th.

M. C. V. Alumni Association in New York.

Between seventy and eighty alumni of the Medical College of Virginia form the active membership of the New York Alumni Association of the Medical College of Virginia. It is the aim of the Association, far as possible, to further the social and professional interests of graduates of the Medical College of Virginia who go to New York to practice or take up interne work. All required is a letter of recommendation from the Secretary of the Alumni Association in Richmond.

Dr. M. Benmosche of the class of '04 is at this time president, and Dr. Patrick M. Carroll class of '16, secretary. Dr. Junius Stephenson, whose death is reported in this issue of the MONTHLY, was vice-president. The first number of the *Bulletin* published by this Association is a Memorial Number to Dr. Stephenson.

Will Attend Philadelphia Meeting.

Drs. Dean B. Cole and Frank S. Johns, Richmond, expect to attend the meeting of the Association for Thoracic Surgery, in Philadelphia, May 12 to 14, inclusive.

Dr. Charles A. Easley,

Chatham, Va., is now much improved after several months of indisposition.

Dr. and Mrs. J. M. Biedler,

Harrisonburg, Va., recently returned home after a two month's vacation at Hollywood and Miami, Fla.

Dr. Charles M. Caravati

Is now located in his new offices at 807 West Franklin Street, Richmond, and is engaged in general practice.

Mental Hygiene Literature.

In these days when so much interest is being shown in mental hygiene and so much literature is being published relative to the subject, it is worthy of note that probably the first book on the subject was published in 1843. In that year, a book with the ambitious title of "Mental Hygiene, or an Examination of the Intellect and Passions Designed to Illustrate Their Influence on Health and the Duration of Life" was published. The author was Dr. William Sweetser, of Boston, Mass. In 1860, another book with the pleasing title of "Physical and Mental Hygiene, or How to Enjoy Life," was published, the author being Dr. William W. Connell, of Philadelphia. In 1863, a book of 338 pages, entitled "Mental Hygiene" was published, the author being Dr. Isaac Ray, a distinguished psychiatrist and medio-legal authority. These books are most interesting. It is, however, difficult to get copies of them. The organized mental hygiene movement, however, did not start until 1908, following the publication of a very notable book by Clifford W. Beers, entitled "A Mind That Found Itself."

At the International Congress on Mental Hygiene, in Washington, D. C.—May 5th to 10th—there will be a most important exhibit of literature on every phase of the subject. Physicians and others interested in the literature on Mental Hygiene and related subjects may get information from the State Bureau of Mental Hygiene, 1101-5 Bank Street, Richmond, Va., or from the National Committee for Mental Hygiene, 370 Seventh Avenue, New York City.

W. F. D.

News of Southside Community Hospital.

The services of Dr. C. M. Nicholson, Charlottesville, Va., have been secured for the surgical work at the Southside Community

Hospital, Farmville, Va., during the absence of Dr. Thomas G. Hardy, who has been ill since March, and the departure about the same time of Dr. F. R. Crawford to take up work in China. Dr. Hardy is now reported to be improving.

The past month has been the best in the history of the hospital, all private rooms having been occupied, with a waiting list much of the time. Dr. Nicholson will continue to do the major surgery until such time as a well trained surgeon, resident of Farmville, is obtained.

Dr. F. S. Johns, of Johnston-Willis Hospital, Richmond, continues his weekly visits to this hospital as consultant surgeon.

Dr. C. H. Iden,

Berryville, Va., recently returned home from a visit to Rochester, Minn., where he attended the Mayo Clinic for a while.

Dr. L. H. Bracey,

Of the class of '28, Medical College of Virginia, is now practicing at his former home, at South Hill, Va. Dr. Bracey interned at Hazleton Hospital, Hazleton, Pa.

The Southern States Regional Conference and Social Hygiene Institute

Will be held in New Orleans, May 23-27, under the auspices of the Louisiana State Board of Health and the New Orleans Council of Social Agencies. Several interesting features have been arranged for the program, one of which will be a round table discussion of technical social hygiene problems to be held on May 23rd and 24th. The Regional Conference proper will open on the morning of the 26th and will include addresses by national social hygiene authorities. Members of the medical profession are cordially invited to attend and participate in the Conference. Further information may be obtained from the American Social Hygiene Association, 370 Seventh Ave., New York City.

\$3,000 Prize Contest.

A contest for the best literary work on "The Soul of America" has been announced by the National Arts Club, the object of the award being to stimulate the writing of a work which will reveal the soul of America, as distinguished from books in which the authors thoughtlessly praise or condemn the national character. Under the rules of the contest,

manuscripts submitted may be in any literary form—novel, history, poetry or critical essay.

For further information, address the National Arts Club, 15 Gramercy Park, New York City.

Dr. Fletcher D. Woodward,

Charlottesville, Va., recently presented a paper before the Cabell County Medical Society, at Huntington, W. Va., his subject being "Foreign Bodies in the Air Food Passages."

The U. S. Civil Service Commission,

Washington, D. C., announces open competitive examinations for the following, applications for which positions will be rated as received until June 30, 1930:

Medical officer, associate medical officer, assistant medical officer; and social worker (psychiatric) and junior social worker.

Copies of Monthly Wanted.

Our file of the September, 1929, issue of the MONTHLY is exhausted. As we have had several requests recently for this issue, especially from libraries for filing purposes, we will appreciate it greatly if any reader who no longer wishes his copy of this number will do us the kindness to let us have it. Address this journal at 104½ West Grace Street, Richmond, Va.

The American Medical Association

Has issued official call for its eighty-first annual session to be held in Detroit, Mich., from Monday, June the 23rd to Friday, June the 27th, 1930. Dr. Malcolm L. Harris, Chicago, is this year's president. Detroit is a lovely city and attendance on this meeting will provide a splendid means of vacation for doctors from this section.

The Medical Society of Virginia, Maryland and District of Columbia

Will hold its regular semi-annual meeting on May 21st, at the Manor Club, Md. Dr. Wm. T. Davis is president; Dr. Robert Scott Lamb, treasurer; and Dr. Joseph D. Rogers, corresponding secretary. All of these officers are of Washington, D. C.

Dr. William F. Drewry,

Director of the Bureau of Mental Hygiene, Richmond, Va., on April the 22nd addressed the Norfolk Branch of the American Association of University Women, at Norfolk, Va., on the subject of mental hygiene.

The U. S. Pharmacopoeial Convention

Is holding its decennial convention in Washington, D. C., May 13th. A large number of eligible organizations and colleges are to be represented, as well as the various services of the Government, and the occasion promises to be of great interest. The Medical Society of Virginia is to be represented by Dr. Alexander G. Brown, Jr., Richmond; Dr. J. C. Flippin, University; and Dr. P. W. Boyd, Winchester. The secretary of the Convention is Dr. Lyman F. Kebler, 1322 Park Road, Northwest, Washington, D. C.

The American College of Physicians

Will hold its fifteenth annual clinical session at Baltimore, Md., March 23-27, inclusive, 1931. The Lord Baltimore Hotel will be headquarters.

Dr. Sydney R. Miller, Baltimore, as President, will have charge of the selection of the general scientific program. Dr. Maurice C. Pincoffs, of Baltimore, has been appointed by the Board of Regents as the General Chairman of the Session, and will make all local arrangements, including the making up of the program of clinics. Business details will be handled by the Executive Secretary, Mr. E. R. Loveland, from the College headquarters, 133-135 S. 36th Street, Philadelphia, Pa.

The attention of secretaries of various societies is called to the above dates, in the hope that their societies will select non-conflicting dates for their 1931 meetings.

Grace Hospital to Double Size.

Plans have been completed for a four-story annex to Grace Hospital, Richmond, Va., to cost approximately \$75,000. The annex will be fireproof throughout and will double the present size of the hospital. Fifty new beds, two major and two minor operating rooms, improved X-ray facilities, and a department devoted especially to children will be the new features. The obstetrical department will be increased to fifteen beds, and a complete physiotherapy department will be established in the annex, which is expected to be ready for occupancy before November 1st.

The present organization was purchased from Drs. Bryan and MacLean in July, 1929, by a large number of doctors formed as a corporation. The present officers of the Grace Hospital Corporation are Drs. A. L. Herring, president, J. A. Rollings, vice-president; T. B. Pearman, secretary, and E. T. Trice, treasurer.

Dr. Page O. Northington,

New York, N. Y., class of '17, Medical College of Virginia, has been appointed associate consultant in otology at the Neurological Institute and assistant attending surgeon, Ear, Nose and Throat Department at Presbyterian Hospital, New York.

Dr. H. L. Myers,

Norfolk, Va., is one of the contributors to the series of short articles prepared under the direction of the Gorgas Memorial Institute, and released on May the 2nd. Dr. Myers' subject is "Do Not Forget Your Eyes." The Gorgas Memorial Institute was organized to perpetuate the life work of the late Major General Gorgas in preventing unnecessary illness. Headquarters of the Institute are at 1331 G Street, Northwest, Washington, D. C., and Dr. Cary T. Grayson, is its president.

Dr. A. G. Coumbe,

Member of the Medical Society of Virginia, and for a number of years a resident of Washington, D. C., has retired from active practice and has gone to Fort Myers, Fla., for an indefinite stay.

Dr. James W. Reed,

Norfolk, Va., is home again after an operation for appendicitis, following which he was quite sick. He was taken suddenly ill during the all-day clinic meeting of the Norfolk County Medical Society and was unable to leave the hospital to which he had gone to attend clinics.

Fire Destroys Doctors' Building in Atlanta.

Early in April, fire of undetermined origin destroyed the Doctors' Building on Peachtree Street, in Atlanta, Ga. Approximately seventy-five doctors and dentists had offices in this building and it was estimated that the loss would be not less than half a million dollars in addition to valuable records. Part of the loss included about a dozen X-ray machines ranging in value from \$5,000 to \$25,000 each. Many of the doctors carried only small insurance on their equipment.

Dr. Leta J. White,

For five years with the Richmond (Va.) City Health Bureau, has just returned to Virginia after sometime spent in special work at the Children's Hospital, Philadelphia, and has located at 101 Liberty Street, Petersburg, Va. She will limit her practice to infants and children. Dr. White is a member of the class of '23, Medical College of Virginia.

Dr. and Mrs. I. K. Briggs

Have just returned to South Boston, Va., after sometime spent in New York, where Dr. Briggs has been taking a post-graduate course in surgery.

Dr. Victor K. Young,

Of the class of '27, Medical College of Virginia, after a service at Kings County Hospital, Brooklyn, N. Y., has recently located at Hotel Pennsylvania, New York City, as assistant house physician.

Third Graduate Fortnight.

The third annual Graduate Fortnight of The New York Academy of Medicine will be held from October 20 to 31, 1930. The general subject which has been chosen for this year is "Medical and Surgical Aspects of Acute Bacterial Infections."

The program as arranged is in two parts, coordinated afternoon clinics to be held in ten important hospitals of the city, and evening meetings to be held at the Academy. An added feature of this year's Fortnight will be an exhibit of anatomical, bacteriological and pathological specimens and research material bearing upon the various aspects of the subject.

Each of the hospitals cooperating in the Fortnight will present two afternoon clinical programs dealing with different phases of the general subject. The evening meetings will be held at the Academy of Medicine.

The list of speakers who have been invited to take part in the Fortnight includes prominent clinicians from many parts of the country who are recognized authorities in their special lines of work.

The profession generally is invited to attend. No fees will be charged for attendance at any of the clinics or meetings on the program. A complete program and registration blank for special clinics and demonstrations will be mailed on request sent to the Academy at Fifth Avenue and 103rd Street, New York City.

The American Association for the Study of Goiter

Has issued a preliminary program of its meeting to be held at Seattle, Tacoma and Mt. Ranier, Wash., on July the 10th, 11th and 12th. This program shows a list of thirty-four papers by foremost specialists in the treatment of goiter. Dr. J. Tate Mason, vice-president, an alumnus of the University of

Virginia, Department of Medicine, will be glad to answer any inquiries concerning this meeting, which may be sent to him at 1115 Terry Avenue, Seattle, Wash.

Twenty-Five Per Cent Increase in Health Examinations.

A twenty-five per cent increase in the demands for Health Examinations since October 15, 1929, when the Five County Medical Societies of Greater New York launched the Periodic Health Examination Campaign has been reported by the physicians of Greater New York.

As a result of a questionnaire sent to a representative cross-section of the city's physicians by the Greater New York Committee on Health Examination, and in response to numerous inquiries, the Committee has published a book to acquaint medical societies and other interested parties all over the United States and Europe with the procedure of the New York Campaign. To give all interested parties the benefit of its experience, the Committee is distributing 15,000 books to medical societies, health foundations, welfare organizations, and education groups throughout the United States and Europe.

The Kidney in Health and Disease.

The University of Minnesota has issued an invitation to a symposium on the Kidney in Health and Disease to be held at the University of Minnesota Medical School, Minneapolis, Minn., July 7-18, 1930.

There will be no registration fee. The University will try to provide dormitory accommodations at a reasonable price during the symposium if registration is made before June 1st.

All correspondence in regard to the symposium may be addressed to the Symposium, University Hospital, Minneapolis, Minn., or direct to Dr. Hilding Berglund, University Hospital, Minneapolis, Minn. The final program, including a brief synopsis of each lecture, will be issued before June 1st.

Dr. Henry S. Stern,

Richmond, has moved his offices to 807 West Franklin Street, he is limiting his practice to pediatrics.

Intensive Post-Graduate Course.

Professor Georges Portmann will give a five-week, intensive post-graduate course in ear, nose, and throat surgery, at the University of Bordeaux, France, commencing July 21, 1930. This course is open to American physicians.

For information, apply to Dr. Leon Felderman, Mitten Building, N. W. Cor. Broad & Locust Sts., Philadelphia, Pa. (*Adv.*)

What Price Babies?

From nothing at all to \$692 was found to be the cost to parents of the luxury of having a baby in Columbus, Ohio, during the year 1928. The average amount for parents with an income of \$3,000 or more was \$270, for those with an income of \$1,200 to \$3,000 it was \$129, and for those whose income was under \$1,200 it was \$64. Doctors' and nurses' fees and hospital charges used up a considerable proportion of these amounts. The investigator, a professor of sociology in the State University at Columbus, concluded that only well-to-do families and dependent families in that city have medical care at childbirth that approximates modern standards, and that parents of the various racial backgrounds would purchase medical care if they had the means to do so.

The School of Nursing of the University of Virginia Hospital

Is having its graduating exercises at 4 P. M., May the 8th. Dr. W. T. Sanger, president of the Medical College of Virginia, will give the graduating address. Dr. J. C. Flippin, dean of the Medical School, will present the graduating class to the president, Dr. E. A. Alderman, who will preside and present the diplomas. Miss Josephine McLeod is superintendent of nurses. This class numbers 44 graduates.

Information Desired.

Since the discovery of the Confederate Tunnels just outside of Petersburg, Va., recently the owners have been endeavoring to locate some of the old Confederate soldiers who took part in their digging, in order that the history of same may be properly recorded. They would also like to know by what regiment or in consequence of whose command or for what purpose the tunnels were constructed.

If any of our readers are in possession of any of the above information, it should be sent for a matter of record to David A. Lyon, Jr., care the Petersburg Battlefield Realty Corporation, Petersburg, Va.

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Address No. 230, care this JOURNAL. (*Adv.*)

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Write Mr. James H. Price, attorney for estate, Times-Dispatch Building, Richmond, Va. (*Adv.*)

Obituary Record

Dr. Mary Evelyn Brydon,

Director of the Bureau of Child Health of the State Department of Health, Richmond, Va., died on the night of April the 13th, after an illness of several weeks. Her death was due to complications following pneumonia. Dr. Brydon, known in private life as Mrs. George L. MacKay, was a native of Danville, Va., and fifty-one years of age. She first trained as a nurse and later took up the study of medicine, graduating in 1911 from the Woman's Medical College of Pennsylvania, at Philadelphia. She was first engaged in public health work in Danville, later becoming director of physical welfare at the Farmville, Va., State Teachers' College. She became connected with the State Health Department in 1918 and has, for the past few years, given her time entirely to child welfare work. She had been a member of the Medical Society of Virginia for some years. She is survived by her husband and several brothers and sisters.

Dr. Rawley Martin Witten,

Retired physician of Bluefield, Va., died at his home in that place on February the 26th.

He was born in Tazewell, Va., in 1853, and studied medicine at the College of Physicians and Surgeons, Baltimore, from which he graduated in 1880. Dr. Witten had been a member of the Medical Society of Virginia for about thirty years.

Dr. W. E. Oliver,

Elliston, Va., died at his home in that place on April 24th, after a few weeks' illness. He was a native of Halifax County, Va., and seventy-five years of age. He had been a practicing physician in Montgomery County for forty years, and had been a member of the Medical Society of Virginia for some years.

Dr. Junius W. Stephenson,

Of New York City, died of pneumonia at his home in Pelham, New York, on Saturday, March 8, 1930. His death was sudden and unexpected. He was the son of Dr. Junius W. Stephenson and Rosa Harrison Stephenson. He is survived by his widow who was Ruth Story Walther, of Canandaigua, New York, and two children, Junius W. Stephenson, Jr., and Walther Story Stephenson.

Dr. Stephenson was born at "Huntington," Prince George County, Va., on May 22, 1885. In his early childhood he moved to Petersburg where he was reared. He attended the public schools of that city, graduating from the Petersburg High School in 1903. He entered the Medical College of Virginia and received his degree of Doctor of Medicine in 1907, following which he served a general internship at the Memorial Hospital in Richmond, Va., for a term of one year and later was a member of the staff of the Southwestern State Hospital at Marion, Va. He was next associated in the general practice of medicine with his uncle, Dr. H. U. Stephenson, at Toano, Va., for a period of time before he became a member of the staff of Harrison's Sanatorium on Long Island, New York. His interest in neurology was aroused by the work he did at this institution and while at the State Hospital at Marion. He then sought an appointment at the Neurological Institute of New York where he served an internship on the service of Frederick Peterson. After the completion of this service at the Neurological Institute, Dr. Stephenson became associated with and practiced neurology with Dr. Peterson, and Dr. Foster Kennedy, and their associates. He continued his association with the Neurological Institute as assistant in the outpatient de-

partment of that institution and also in the wards. He was gradually promoted to Chief of Clinic, and at his death he had risen to the staff position of Attending Neurologist, and a member of the Medical Board of that famous institution. He was an active member of the Section of Neurology and Psychiatry of the New York Academy of Medicine, having only recently concluded a successful term as Chairman of that Section.

Dr. Stephenson was a teacher of great inspiration, and he is remembered and revered by many students whom he taught both in the under-graduate department of the Cornell University Medical School where he was clinical instructor in neurology and as assistant attending physician on the Neurologic Service at Bellevue Hospital. As a teacher in the post-graduate school of the Neurological Institute his work was outstanding. During his life he published a number of medical works particularly in the field of organic neurology.

Dr. Stephenson volunteered for military service on May 21, 1918, and was called in active service as First Lieutenant of the Medical Corps on June 8, 1918. His first assignment was neurologist to Base Hospital No. 48 at Fort McHenry, Md. Shortly after this assignment he was promoted to the rank of Captain, June 15, 1918, and on July 4, 1918, he sailed for overseas on the S. S. *Aquitania* arriving at LaHavre, France, July 14, 1918, and was immediately sent to Roanne, France, with his Base Hospital with which he remained until they were ordered home early in 1919. On January 31, 1919, Dr. Stephenson was transferred to the Fifth Division as the Division Psychiatrist. He remained with this Division until it returned to the United States in July, 1919. In February, 1919, Dr. Stephenson was promoted to the rank of Major in the medical corps, and for a period of time he was consultant in neuropsychiatry to the Hospital Center at Mar Sur Allier. He was discharged from Camp Upton on October 5, 1919.

Dr. Stephenson was a member of the Phi Chi Fraternity, The Sons of the Revolution, Broadway Post No. 515, The American Legion, The Medical Society of New York, The American Medical Association, The Southern Society of New York, The Virginians of New York, Veteran of Foreign Wars, The Military Order of Foreign Wars, The New York Athletic Club, and The Free and Accepted Masons.

His associates at the Neurological Institute, at Cornell Medical School, and at Bellevue

Hospital, the profession of New York City, his many patients, and his intimate friends and family in Virginia mourn the loss of this young man who had risen so high in medicine.

R. F. G., JR.

Doctor John Garnett Nelson: A Eulogy.

With deep realization of the sadness of their mission, the undersigned representatives of your president bring to the attention of this Academy the death of one of its fellows who has long occupied a conspicuous place upon our floor and within our hearts.

John Garnett Nelson began his life in November, 1872, in Fauquier County, Virginia, the son of Reverend Kinloch Nelson, D. D., rector of Leeds parish, later professor of the seminary at Alexandria. He was educated at the Episcopal High School at Alexandria, McGuire's University School here, and at the University of Virginia. After teaching for a time at St. Alban's School in Radford, he became a student of medicine at the University College of Medicine in Richmond, where he graduated in 1900. While he was working his way through the medical curriculum, he held a teaching position on the faculty of McGuire's School in Richmond.

Beginning his active practice of medicine in 1901, he continued at this work until a short time before his death. His interest lay primarily in the field of internal medicine, in which he soon acquired a degree of proficiency which won him general recognition. His qualifications as a teacher now had many opportunities within his chosen field, and to the demands of his growing practice he added distinguished service to medical education through his work at the college. Ultimately, he held a professorship in the department of medicine at the University College of Medicine, and later, also, at the present Medical College of Virginia, with which his alma mater finally became merged. Interest in the activities of various medical organizations naturally followed, and he was soon prominently identified with the affairs of several of them, and, especially, of the Medical Society of Virginia and the Richmond Academy of Medicine. The latter he served consistently and faithfully for many years; and whether from the president's chair, to which he was elected, or from the board of trustees, of which he was one of the first members, or from the floor upon which he frequently appeared in the presentation or discussion of papers, his counsel was always met with the utmost of thoughtful consideration by an Academy which early learned the value of his opinions and his judgment.

The World War broke into his life, as it did into the lives of many. He went into the service promptly and, with the rank of major, became chief of the medical staff of Base Hospital No. 45, more familiarly known as the McGuire Unit. For some months he was assistant chief of the medical service at Camp Lee, and there, through the devastating epidemic of influenza in 1917, he had a foretaste of the wholesale clinical problems that were to confront him later, on an even greater scale, behind the lines in Europe. In the middle of 1918 he sailed with his unit to France and was shortly, at Toul, in charge of the entire medical service of a hospital which almost immediately became flooded with casualties from the great American force concentrated upon that front for the first drive of the armies of the United States under their own officers and their own flags. For the next eight months his work lay here; and then, with the break-up of the armies, he started home, now a lieutenant-colonel and in command of the outfit.

Back in Richmond, he was soon engrossed in the affairs of the newly launched McGuire Clinic, of which he was one of the organizers and in which he was chief of the medical staff until his death. There now followed years of much activity in his professional work and steady expansion of his influence in this field. Aside from his share in the development of the great clinic of which he was a part, his most notable work, perhaps, was in the fight against tuberculosis. He was instrumental in the organization of the Richmond Tuberculosis Association, of which he was president, and devoted much time and thought toward the advancement of its objects.

Such, in brief, were his major activities and interests. How he met and discharged the duties that thus fell to his lot we know without recital. In the classroom, or as a teaching clinician at the bedside, he was admirably in his element; many members of the Academy were his pupils and will instantly and gratefully recall the fine force and intelligence of his reasoning. Into his own practice he carried that same high quality, and along with it a recognition of his responsibilities that was truly notable. By day or night, regardless of considerations of convenience or comfort, Garnett Nelson was ever the companion and guardian of his patient to any extent that need required. His contribution to his profession was distinct, not only in the high level set by his daily work, but in the written studies he presented from time to time. His mind was alert and investigative, his energy untiring, his unshakable adherence to conviction proverbial. This combination of attributes always made him a factor commanding serious reckoning in any medical discussion. Yet he was quick to admit the weight of an opposing argument, if it possessed any, and ready to see in others qualities that were so marked in himself—genuineness of heart, sincerity of purpose, common interest and loyalty in a great cause. To those who stood shoulder to shoulder with him during the stirring days of the Great War, came perhaps the best opportunity of measuring his real stature. The intimacy of such an association month after month, is something quite different from the casual and irregular contacts of civil life. Through this acid test with its continuous drain upon every element of human character and intelligence and endurance, Garnett Nelson came untarnished. He took his military duties seriously. He was, when circumstances required it, a stern disciplinarian, and exacted of others the same rigid regard for duty well done that was his own habit, but he possessed the rare ability to command not only obedience, but affection. And no greater testimonial to his worth will ever be recorded than the devotion of his fellow-officers and the feeling, almost akin to reverence, that permeated the entire command for this lovable soldier and officer.

Of his last illness, one writes with the hesitation that the majesty of impending Death enforces. And yet it cannot be passed without note that here, in this gathering darkness, Garnett Nelson rose to his greatest height. As a physician, he knew but too well that his days were numbered in spite of the reassurances of those who often uttered words they did not themselves trust, to keep some ray of hope before him. Months dragged along, and it was heart-breaking to some of his more intimate friends to watch him as he carried on through this stern reprieve. With indomitable determination that was always an outstanding characteristic, he not only faced this ordeal with a great spirit, but actually, for a long time, continued his work and approached his daily professional problems with all the vigor and inquisitive insight that might distinguish one who looked into an unthreatening future.

Ahead of him, in fact, lay certain objectives toward which he was reaching with the hope of accomplishment before the end came. Toward these he fought his way and attained most of them. Now and again, one took him unawares, and was conscious of the deep thoughtfulness and contemplation that lay underneath the surface. As a rule, one saw nothing beyond that surface—calm, purposeful, unruffled alike by pain or the knowledge of what awaited just beyond.

Finally, he had to stop. His will was compelled to yield to overpowering physical forces as he passed into a period of increasing suffering and disability.

Now, at last, he lies at rest. He walks no more among us. His familiar figure will not be seen again in this hall. But to us he has left the unfading memory of a forceful personality that lent dignity and distinction to this Academy; of a physician whose daily work expressed the loftiest ideals of our profession; of a friend and comrade whose loyalty shrank before no obstacle or sacrifice. As much can be said of few of us; more of none.

With this simple but heartfelt tribute to a life worthily spent, we bid him now farewell. May the peace that passeth understanding be his forevermore.

(Signed)

FRED. M. HODGES,
MANFRED CALL,
JOSEPH F. GEISINGER, *Chairman*.

A motion that the foregoing be adopted, that it be spread upon the minutes of the Richmond Academy of Medicine, that copy be sent the bereaved family, and that it be published in the VIRGINIA MEDICAL MONTHLY, was unanimously carried at a meeting held on April 8, 1930.

MARK W. PEYSER,
Secretary-Treasurer.

Dr. John Richard Adams,

Blackstone, Va., died at his home in that place on April the 22nd. He was a native of Lunenburg County, Va., and eighty-three years of age. Dr. Adams attended last year's commencement exercises at the Medical College of Virginia as its oldest living alumnus, having graduated from that institution in 1869. A committee of the College alumni association attended his funeral. Dr. Adams' wife and several children survive him.

Dr. Charles Eugene Rogers,

Covington, Va., died in Chicago on February 11th, his death being due to pulmonary edema, following myocarditis. He was sixty-five years of age and graduated in medicine from Bellevue Hospital Medical College of New York in 1880.

Dr. Richard Terrell Davis,

Fredericksburg, Va., died April the 16th, while on a visit at the home of his brother-in-law in Warsaw, Va. He was fifty-eight years of age and graduated in medicine from the former University College of Medicine, Richmond, in 1894. He is survived by his wife and a large family connection.

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Think of these facts as you plan your meals. And in addition to using sugar as a flavor remember that simple wholesome desserts have their place in balanced meals. The normal diet calls for sugar. Ask your doctor! The Sugar Institute.

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Virginia Medical Monthly

OFFICIAL ORGAN OF THE MEDICAL SOCIETY OF VIRGINIA

Vol. 57, No. 3.
WHOLE No. 936.

RICHMOND, VA., JUNE, 1930

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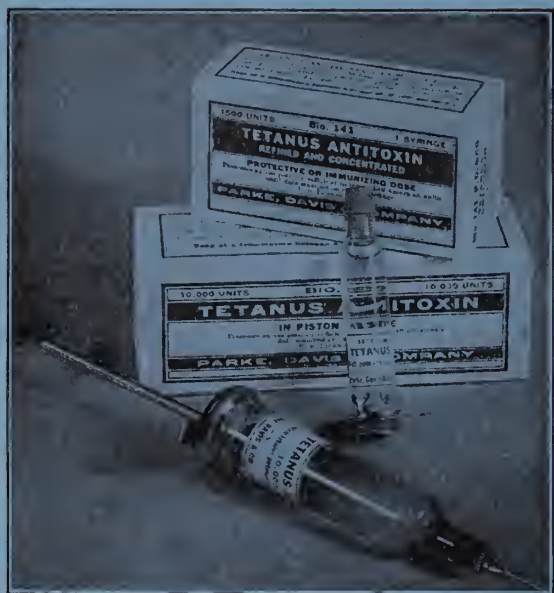
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THE PREVENTION OF HEART DISEASE.*

By PAUL D. WHITE, M. D., Boston, Mass.

A generation ago to discuss the prevention of heart disease would have seemed to most people a useless, idle, and fanciful thing to do. At the present day it is coming to be regarded as a useful, sensible, and farsighted procedure and I welcome this opportunity you have given me to spread a little the gospel of health as some of us workers in the field of heart disease of late years have learned it. But because it has become the vogue to talk of such things, we must not be content simply to utter high sounding phrases and to tell of past accomplishments in other fields. We must take up the specific problem and analyze it in the light of present known facts and of future probabilities and possibilities.

The campaign against tuberculosis began a generation ago and in spite of the shaking of heads of many skeptics along the way its accomplishments are now so obvious that they encourage workers in all other fields, difficult as they may seem to be. Heart disease is at the beginning a much tougher problem than was tuberculosis; it is more complicated and some phases of it appear insoluble at present, but our knowledge and weapons are far more potent than they were a brief generation ago, and rash and reactionary indeed would be the man today who would dare to say "There is no hope." Facts already have proved there is hope, even though accomplishments to date have been but few.

How has this awakening of interest in the prevention of heart disease come about? For manifold reasons. In the first place, heart disease has been more and more recognized as a formidable cause of death and illness at all ages. Secondly, this recognition has been much emphasized by the increased relative importance of heart disease as a cause of mortality and morbidity while other diseases, especially tuberculosis, the dysenteries of infancy, and

the more serious infections of childhood and youth (small-pox, diphtheria, typhoid fever), have been more or less controlled. This reminds me of the great interest taken in the so-called soldier's or nervous heart in the recent World War because of the fact that this partially crippling condition then attracted attention for the first time as a result of the prevention of many of the more serious diseases, like typhoid fever, which in former wars absorbed nearly all the interest and efforts of medical officers. And yet without any doubt there was much of the soldier's heart in other wars too; there simply was no time then to study or even to recognize it because of more pressing problems. The third reason for the awakening of interest in heart disease prevention, the cutting off in their prime by degenerative circulatory diseases of important and useful citizens, has focussed the world's attention more and more on heart disease. Fourthly, success in preventive medical measures in other fields has given hope to workers in this field too. And finally, there have already been taken here and there short but successful and promising steps in heart disease prevention.

The relative and absolute importance of the subject of heart disease can be illustrated by

TABLE
DEATH RATES PER 100,000 IN MASSACHUSETTS FOR ALL
AGES OF THE TEN MOST FREQUENT CAUSES
OF DEATH.

	1906*	1916*	1926*
Heart Disease	186	210	226
Cancer	84	105	126
Pneumonia	177	172	114
Apoplexy	95	97	103
Nephritis	75	93	83
Tuberculosis	211	142	80
Accidents	69	75	68
Prematurity	—	59	44
Diseases of the Arteries.....	24	58	44
Diarrhea and Enteritis.....	99	80	20
Total Deaths All Causes.....	1,676	1,483	1,219

*Average three years.

(Bigelow and Hamblen, *N. E. Jour. Med.*, 1930.)

*Read by invitation before the Norfolk County Medical Society, Norfolk, Va., February 17, 1930.

a table giving some simple statistics. Although these statistics show that heart disease as a

cause of death has been steadily rising in importance in the last generation, two qualifications must be made; first, that this increase is certainly in very large part due to the relative and absolute decrease in certain other important causes of death, and second, that the increase is chiefly in middle and in old age, which in a way is an encouraging rather than a discouraging fact because it is simply another way of saying that the average duration of human life is steadily increasing and that finally degenerative circulatory disease ends the story. Even so we must not be content there. While it appears most urgent to attack and to prevent the diseases that cripple or kill in youth or in middle age we must not lose sight of the possibility of retarding senility. Three score years and ten seem very old to the youngster of fifteen and twenty years but year by year as we ourselves approach that age it does not seem so ancient and we should not rest content to expect to die at seventy. There is much of value to be expected from the wisdom and happiness of healthy old men and old women and if their old age can be extended and preserved in good health, the world will be a better place to live in. Although the average duration of human life has been increased from about twenty years in the Middle Ages, and 40 years in civilized countries one hundred years ago, to 58 years in the United States of America at the present time, there are many indications that after the age of forty years is passed life expectancy has been somewhat reduced. This is an important and often neglected phase of the subject.

We come now to the specific problem of the prevention of heart disease. Enlargement of the heart, valvular lesions and arrhythmias were diagnosed years ago, but for the most part they were not analyzed further. Of course it was realized even then that rheumatic fever and syphilis did cause some of these lesions but they were not added to the diagnosis and little attention was paid to their possible prevention. Also in many cases the causes behind the pathological findings were entirely unknown, for example, hypertension as a cause of cardiac enlargement in the days before blood pressure studies. Then came in our own memory the notable contribution of James Mackenzie and others like him who insisted on the recognition of functional disturbances of the circulation, like heart failure.

Here preventive measures have been more and more introduced. By proper regulation of life and the proper use of drugs and other therapeutic measures heart failure and other disorders of function were often held at bay, but the diseased conditions behind these disorders were still sadly neglected.

One of the distinct contributions of this country during the past generation has been the etiological classification of heart disease, that is, the diagnosis according to cause. It has helped to define the problem of the prevention of heart disease, for naturally we cannot intelligently prevent a disease condition until we know its cause. Some may complain that we do not yet know all the causes of heart disease, that in some cases it is impossible to discover the cause, and finally that even if we do know the causes we cannot prevent some of them. These criticisms are very true but they do not mean that we must sit down and fold our hands, saying that heart disease is the will of God and that we can and should do nothing about it. They should stimulate us still more to study the problem and to follow up the little progress already made by further strides, so that we may finally say "We do know all the causes of heart disease, we can make an etiological diagnosis in every case, and we do know the way in which each cause is itself produced." By that time the causes themselves, being better understood, will be in part doubtless preventable, and heart disease will no longer wreak the havoc it does at the present day. An interesting sidelight on the subject of the study of heart disease is the changing attitude that has come even in the last ten years in my own experience. Soon after the World War I was advised not to concentrate all my attention on such a small field in medicine as heart disease and this advice was given me by one of the medical leaders of our day. Last summer another medical leader expressed surprise that I could maintain an active interest in all phases of such a tremendously large subject. Here indeed is a vast field for many workers; it is a difficult one and will demand much thought and toil, but I for one believe that the harvest will be well worth all the labor; I only hope that I may live long enough to see some of the more notable achievements that are bound to come.

The causes of heart disease which should now

be considered one by one from the standpoint of preventive medicine will be presented to you largely according to the time of the life cycle that they appear. This is a convenient and logical approach, but we must leave at the end a compartment labelled "unknown," of which we can say little now except that it carries a rather uncertain number of causes; perhaps 5 to 10 per cent of cardiac patients belong under such a heading. The known causes of heart trouble are (1) congenital defects, (2) the rheumatic infection, (3) malignant endocarditis, (4) syphilis, (5) other infections, (6) the so-called cardiac neurosis, soldier's heart, or neurocirculatory asthenia, not actually heart disease, but still an important cause of more or less disagreeable and sometimes crippling heart trouble, (7) thyroid disease, (8) high blood pressure, (9) certain chronic lung diseases, and (10) arteriosclerosis of the coronary arteries.

(1) DEFECTS IN THE HEART AND BLOOD VESSELS AT BIRTH are due to factors little or not at all understood. Fortunately they are found in but a small proportion of cardiac patients (in New England in only 2 per cent); nevertheless hopeless crippling may result and early death is common in many of those affected. The progress of the study of eugenics and of heredity will undoubtedly advance our knowledge of such congenital defects as those that involve the heart and arteries. It is likely that germ cell deficiencies are most important, but other factors like the mother's state of health during pregnancy and foetal infection must be considered. Attention to these matters may conceivably reduce eventually the incidence and seriousness of congenital heart disease. As yet we can do little or nothing in this direction.

(2) THE ACUTE RHEUMATIC INFECTION of youth, either in the form of rheumatic fever, or of chorea, or of less well defined nature, is one of the chief causes of heart disease. In some respects it is the most important, for it cripples and kills mainly children and young adults, and in many parts of the world it appears to lead all other causes in damaging the heart. In New England chronic valvular disease resulting from known rheumatic infection or from probable rheumatic infection, when the history is not clear but the heart disease typical, is the most common recognized variety of heart disease. We don't yet know

the exact germ that causes the rheumatic infection although several bacteria are now under suspicion and from evidence at hand they almost certainly belong to the streptococcus family. Many investigators are hard at work on the problem of isolating the cause or causes of the rheumatic infection and it does not seem likely that much time will elapse before we are assured of the responsible bacteria. When that day arrives, it is more likely than now that a vaccine can be devised to prevent the disease in susceptible or exposed individuals and perhaps a serum produced to stop the infection when it starts. Various vaccines and serums have already been tried but with disappointing or negligible results.

Can we do anything to control rheumatic heart disease even though we have not yet discovered with certainty its cause? Yes, without a doubt, if we heed certain facts that we already know about the disease. These facts are as follows. In the first place climate plays an important role. In tropical and subtropical countries the rheumatic infection, at least in typical form, is rare, and rheumatic heart disease is apparently uncommon; in countries which have at least for part of the year, wet, cold, and variable weather conditions, the rheumatic infection and rheumatic heart disease are generally very common. Secondly, these disease conditions are more often found among the poorer parts of the population, in the more crowded and less sanitary suburbs of our northern cities where exposure to cold, wet, fatigue, faulty nourishment, and infection is greatest. And finally, these diseases are often found in several members of the same family, indicating a family susceptibility and perhaps a slight contagious element as properties of the rheumatic infection. Bearing these points in mind we may then hope to reduce the occurrence of rheumatic heart disease, this frightful scourge of youth, by recommending better climatic conditions to affected families, by improving economic and living conditions in the cities and countryside too, and perhaps in preventing too close a contact of affected members of a family with the rest of the family. These measures may be undertaken, at least in part, with some hope of success, even before we can control the disease by specific immunological measures.

The matter of removal of the tonsils is still largely one of opinion in spite of the mass of

statistics that has been gathered. It is my own opinion that tonsillectomy should be done routinely in every child or young adult who has had a rheumatic infection or rheumatic heart disease, and in every other young person who has had tonsillar infection or who may be much exposed to rheumatic fever or chorea. It is perhaps but slight protection but it seems worth while. Finally, there is the question of the value of rest in bed and of salicylates in the treatment of the rheumatic infection to try to prevent the complication of heart disease of permanent nature that follows infection in about 80 per cent of the cases of rheumatic fever and in about 40 per cent of the cases of chorea. Although we have little proof of their efficacy it seems wise for the present at least to use them during the acute stage of the disease. As to the value of the routine use of the salicylates, like acetyl-salicylic acid (aspirin), in daily rations in exposed persons or in those who have once had the rheumatic infection to try to prevent the beginning or recurrence of such an infection, we have no knowledge. It may even be injurious to do this because of the possible action of the salicylates in depressing the immune bodies. This is nearly all theory, however, and information is demanded from much practical experience before we can speak with any degree of assurance on this subject.

For some people the rheumatic heart problem is a small one but for us in New England it is of great magnitude.

(3) **MALIGNANT ENDOCARDITIS** which includes both acute and subacute bacterial endocarditis, is almost invariably a fatal condition. Fortunately it is one of the less frequent types of heart disease. It is caused in acute form by any one of a variety of virulent bacteria, such as the pneumococcus, gonococcus, or the staphylococcus aureus or albus, and in subacute form almost always by the streptococcus viridans. The more virulent germs get into the circulation from some diseased area, like a pneumonic lung, an abscess, or other infection anywhere. In such cases the heart infection is a secondary one, often terminal, and not always diagnosable during life. Prevention of such acute bacterial endocarditis depends of course on the prevention of the primary infection like pneumonia or meningitis. Subacute bacterial streptococcus viridans endocarditis on the other hand is another matter. It attacks

hearts that are already damaged more often than normal hearts, and such hearts almost always have congenital defects or rheumatic valve lesions. About one in every 25 cases of rheumatic heart disease in youth falls a victim to this fatal complication. Hence the prevention of subacute bacterial endocarditis will depend in large part on the prevention of earlier heart disease of congenital or rheumatic type. In such chronic cases it is well to search for and to remove foci of infection where the streptococcus viridans may gain an entrance to the circulation. For this reason as well as for others, routine tonsillectomy is, I believe, advisable in every patient with chronic rheumatic valvular disease or congenital cardiovascular defects.

At present there is no cure for malignant endocarditis. Whether it would be feasible to try to protect rheumatic heart patients against the streptococcus viridans infection by vaccine therapy is much open to question—perhaps those individuals with very low titer of immune bodies might be so protected. This would be an experimental matter. At least it does seem wise, however, to protect so far as possible against infection and injury any young patient with rheumatic or congenital heart disease as a preventive measure against subacute bacterial endocarditis, since such malignant infection is prone to follow such incidental infection and injury.

(4) **CARDIOVASCULAR SYPHILIS** is distinctly on the decline in some parts of the world and without much doubt in those regions where syphilis is originally well recognized and treated early and adequately. Syphilitic inflammation of the aorta which is the commonest manifestation of the spirochaetal infection of the circulation, first becomes evident as a rule in middle age; it is always a serious disease and often fatal within a very few years by producing an aneurysm that may rupture, by causing a narrowing of the mouths of the coronary arteries, by overburdening the heart muscle by a rapidly progressive strain from a leak through the damaged aortic valves, or by both of these last named effects. By the time the heart and aortic condition is recognized, the stage of the disease is advanced; as a rule little can then be done, although careful antiluetic therapy sometimes proves effective. It is at the time of the primary lesion, and for the few years after that, that antisypilitic

treatment should be carried out fully and faithfully to prevent the serious effects that are so apt to appear twenty to thirty years later. It undoubtedly is because of such adequate therapy, in some cases at least, in the past generation that we are now finding a distinct reduction in the occurrence of cardiovascular syphilis. It has been Romberg's experience in Munich, our own at the Massachusetts General Hospital, in Boston, and others that evidences of syphilis of heart and aorta are now only about one-half as frequent as they were 20 years ago.

Here then a distinct advance has been made already in the prevention of heart disease, even though the syphilitic involvement of the circulation is not in all parts of the world one of the most common types of cardiovascular disease. We must not stop here, however; we must spread the gospel of early recognition and adequate treatment of primary syphilis as well as of its prevention in the first place.

(5) OTHER INFECTIONS than those just mentioned rarely cause heart disease. There is one, however, which is dangerous and which does sometimes kill rapidly because of direct involvement of the heart. This is *diphtheria*. Fortunately, after the illness is over there is only very rarely any permanent heart damage, but if the diphtheria is not recognized early and treated adequately, the heart muscle may be badly damaged with resulting acute collapse or death. The beginning of the prevention of diphtheria as well as the early and adequate use of antitoxin in the disease itself are both measures which have marked milestones in the progress of the campaign against heart disease, even though they have little to do with chronic cardiac damage. *Scarlet fever* is rarely complicated by valvular disease, in about one-half of one per cent of the cases; even so it is of obvious importance that this infection be wiped out from the standpoint of heart disease as well as from that of other conditions. The other usual children's diseases like chicken-pox, measles, mumps and whooping cough do not in themselves cause heart disease but they may lower the resistance of the child so that the rheumatic infection can gain a foothold or flare up again if it has once been active.

Tuberculosis a common enough disease still, fortunately rarely attacks the heart. Now and then it does cause serious disease of the peri-

cardium, and so in the campaign against heart disease we welcome also the reduction of tuberculosis.

There are other and rarer infections which involve the heart, such as echinococcus disease. Also in some parts of the world there are local infections seen little elsewhere, like cardiac trypanosomiasis which is reported to be common in Brazil. The prevention of the heart involvement here as in the diseases already discussed rests in the reduction or wiping out of these infections.

(6) An important cause of heart trouble, even though not of heart disease, is a certain nervous disturbance affecting the circulation indirectly. This is still fundamentally of unknown cause but it is precipitated by nervous strain and physical fatigue in people with very sensitive nervous systems. It is seen most often in young people and during the war was labelled the soldier's heart, effort syndrome, or NEUROCIRCULATORY ASTHENIA. Symptoms of palpitation, heartache, breathlessness, fatigue, giddiness and nervousness are common in such people. In addition there may or may not be any heart disease, but it is usually absent. It perhaps is wrong to consider this condition as heart trouble at all since we are thereby calling attention to but one group of the symptoms and not to the fundamental cause. What it should be called we do not yet know, however. It is important to recognize that it exists in civilian as well as in military life and to make neither too much nor too little of it. A sensible regulation of the life of the affected individual along with plenty of reassurance are the wise measures in treatment. In preventing this disagreeable condition, sensitive nervous persons should avoid and not become involved in the fatiguing, mad and often senseless whirl of business, social and athletic life now the vogue in America. A little idle sitting and reflecting every day with refusal to join in the rush to keep up with the Joneses will prevent the nervous heart more effectively than any amount of medicine.

(7) DISEASE OF THE THYROID GLAND causes a small but appreciable amount of heart disease. Early recognition and treatment of too much thyroid secretion (hyperthyroidism or exophthalmic goiter) or of too little thyroid secretion (hypothyroidism or myxoedema) are

excellent preventive measures. Very decided advance is now in progress in this respect and we are seeing less and less of the old worn-out thyroid derelicts often crippled by hopeless heart disease. Rest, drugs, and X-ray treatment are almost invariably inadequate in the treatment of hyperthyroidism that can be readily recognized as such. Surgical operation with removal of a large part of the thyroid gland is certainly the treatment of choice and many permanent cures have been registered after this treatment. Iodine therapy is rarely to be recommended for treatment except in the preparation for operation. I would include the so-called toxic thyroid adenoma with exophthalmic goiter in the effect on the heart, and in the relief or prevention of heart disease that follows early recognition and treatment of the underlying thyroid condition. Even when heart failure has set in, the thyroid gland if overactive should be removed and such removal will do more to restore normal heart action than digitalis and any other therapy; it is also astonishing to observe how well such sick thyrocardiac patients go through this surgical operation.

The opposite condition, of hypothyroidism, is seen in myxoedema in adults and in cretinism in children. In such cases the heart action is deficient and there may be considerable dilatation of the heart in a few patients, even though there is little or no heart disease. The administration of thyroid extract to such cases improves the heart action and circulation and abolishes the dilatation. In older patients, however, this potent drug should be used with care because of the frequent association of coronary arteriosclerosis with myxoedema and the likelihood of inducing angina pectoris by increasing the metabolism.

(8) One of the commonest and often a serious cause of heart disease is HIGH BLOOD PRESSURE (HYPERTENSION OR HYPERPIESIA). This is rarely caused by kidney disease although years ago anyone with high blood pressure was at once said to have Bright's disease. Now we know that this is not so. What actually causes the hypertension is still a mystery, though every year at least one new theory is presented. Evidently there is for some reason an increase in peripheral resistance to the circulation; general thickening of the smaller arteries has been found, but whether or not

the arteriolar wall thickening with narrowing of the lumen precedes the hypertension and what the cause of such thickening may be are problems for future solution. Such solution is urgent, for however much some physicians may be inclined to make light of high blood pressure in an individual patient, there is no doubt whatsoever that hypertension often exerts a great strain on the heart, frequently at a time of life when its coronary circulation itself is defective. A heavy toll of lives eventually results, and it is rare that a patient survives very high blood pressure for many years, even though we all may know of exceptions. We must face these facts and try to find answers to this difficult problem.

High blood pressure is generally classed as evidence of a degenerative disease and occurs in middle and old age, appearing first as a rule in women at about the time of the menopause. Although such hypertension may be transient, it often persists. Always the element of nervousness enters in, but anyone who has persistently a systolic blood pressure of more than 150 millimeters of mercury should be classed as hypertensive. Other facts that we know about high blood pressure besides its age incidence and serious cardiac (cerebral, or kidney) involvement are its greater tendency to occur in heavy nervous people who are accustomed to overeat and underexercise. Also there is a family tendency to the condition. These facts give us a lead in the way of prevention. The establishment of sensible habits of exercise, rest, and diet—particularly to avoid overeating and obesity—is the obvious recommendation to make to a young, middle-aged, or even old person who wants to do what can be done to avoid hypertension. Such advice should be given particularly to members of hypertensive families.

Even after hypertension has begun and has become established, the institution of good habits may still help in retarding the inevitable strain on the heart.

(9) An infrequent cause of heart disease is CHRONIC EXTENSIVE DISEASE OF THE LUNGS. This type of heart disease has been called the "emphysema heart" or pulmonary heart disease. The obstruction to the pulmonary circulation resulting from the chronic lung disease may exert a great strain on the right ventricle just as the usual systemic high blood pressure

may exert a great strain on the left ventricle. Eventually in a few cases, usually in old age, heart failure may result from this strain. The prevention of this kind of heart disease evidently depends on the prevention of diseases of the lungs and pleura.

(10) CORONARY ARTERIOSCLEROSIS is the last important cause of heart disease to be considered. It is definitely a degenerative change, usually a sign of senility, but often found in relatively young people, especially in certain families. It is common and doubtless occurs to a greater or lesser extent in all old people. It is present in a degree sufficient to cause symptoms, however, in only certain individuals, numerous enough to be sure. The characteristic symptoms are *angina pectoris*—a strangling oppression under the upper sternum generally coming on exertion—and sometimes in other cases breathlessness and dropsy due to congestive heart failure. The occurrence of important coronary disease with the resulting restriction of blood supply to the all-important heart muscle is not a surprising finding in an aged person, say eighty years old, but it is a disquieting and abnormal condition when it makes its appearance as it frequently does in a man forty or fifty years old. Women are rarely affected by the condition so young, and doubtless it is the greater wear and tear and strain of the man's life in business and professional work that makes the difference. A woman at middle age may have a lot of work to do but it usually is not under great pressure, and she has a chance to chat now and then in a leisurely way about nothing in particular with her next door neighbor. If men could or would, and the latter expression is the more apt, follow the women's example they would have less *angina pectoris*, though I daresay the women might have more if they discovered as a result that they must worry and scurry a bit more to maintain their economic status.

It is not the coronary arteriosclerosis alone that causes the *angina pectoris*. A sensitive nervous system and nervous strain are almost always necessary too. Yet in spite of, or perhaps because of, the very important nervous element, *angina pectoris* can be quickly fatal with little to show for it in the way of obvious heart disease other than this very significant symptom. Even though there may be no evi-

dence of heart disease the condition is real, and always important none the less, and the term false or pseudo or secondary *angina pectoris* is grossly misleading. We may have relatively mild *angina pectoris* or very severe *angina pectoris*, but it is all real enough.

With proper regulation of habits to avoid hurry, worry, overexertion and overeating—life in the case of *angina pectoris* can usually (not always) be prolonged for a considerable number of years, often five, ten or more. Undoubtedly the same measures adopted in middle age, especially in members of families with a tendency to early appearance of arteriosclerosis, will tend to prevent *angina pectoris*, or at least to retard it.

A very serious further stage in the course of coronary disease is actual blocking of one of the sclerosed vessels by a clot of blood—*coronary thrombosis*. This is often quickly fatal and a frequent cause of death in people who die of so-called "acute indigestion." Even here recovery is, however, possible with good restoration of heart strength and survival to carry on useful happy lives, sometimes for a good many years. The same measures of common sense living, especially in certain families, that have been already recommended to ward off *angina pectoris*, are applicable here. The fundamental cause of arteriosclerosis itself is still to be discovered; a few facts about certain evidences of coronary disease have been briefly pointed out. Finally, the increasing frequency of *angina pectoris* in the present age is one that demands some action. It can't be more accurate diagnosis, specialization, and a prolongation of the average duration of life that have made the difference between a period of five years in Austin Flint's busy practice in New York City sixty years or more ago when he saw not a single case of *angina pectoris* and my own experience of seeing one hundred new cases in private practice less than eight months recently and four new cases in a single day two or three weeks ago. There must be a factor which is new and I believe that that is to be found in the mad pace of American life today. A halt must be called. I would like to quote a paragraph from a recent paper by Harrold Bachmann in the *Bulletin of the Chicago Heart Association*. The paper was presented to a group of women and was entitled "Those Hearts of Yours. A Message to Wives and Mothers."

"The pace set by the present age for the business man is one taxing mental, physical and moral standards every minute. Though he may sit comfortably in his chair in a luxurious office, that selfsame strain is there sapping his energy, stimulating a nervous system, and provoking a demand on his heart beyond the reserve so gradually narrowing each year. Fatigue, palpitation, chest discomforts, and breathlessness appear, but only to be ignored. The pace is still upon us, the market is fluctuating, a new building is under construction, a directors meeting or a thousand other contingencies keep crowding upon us. Still more symptoms arise and perhaps advice is sought and rest is urged. But what is rest for a busy mind? Miles away telegrams and cables still demand the attention of that creative genius; newspapers still bring those potent problems of the business world. The lure, the excitement of business combat is so instilled that distances no longer count. There may be complete satisfaction with what he already possesses, but the tact, the technique, the skill required to merely hold that, demands an ever-constant alertness and ingenuity that in itself is a consuming flame. The art of living has become in this age a problem of living. The satisfaction and peace of an earlier age has become the anxiety of the present. The tone, the pitch, the rhythm accompanied by the rapid tempo wears and tears and tugs at that reserve meant to be conserved for those declining years. That vital life-giving heart is the center of this maelstrom and soon succumbs to the devastating pace. With its decline there is reflected throughout the whole system discomfort, handicaps, and embarrassment.

"What is there to be done about it and what shall be your role in the conservation of this manpower whose energies and vitality is being sapped and depleted in this speed age of ours? Through you must come that guiding control which slackens the pace. From you must come that warning, that advice to curtail activity before nature's warning becomes too evident. From you must come that tactful influence to slow up, to rest and to conserve. All this is your obligation and duty and to perform it you must approach your subject with intelligence and understanding. Begin early when the first manoeuvres in the business world are made and before habits of excessive industry have been established. An-

nual vacation periods must be an important part of your demanded program. The great Mackenzie once said in effect that no man can do a year's work in twelve months as well as he can in ten. Periodic vacations are of paramount importance and must be urged, for through them we acquire that restoration of forces, that accumulation of resistance, and that increased capacity of function."

(11) Finally there come up for brief consideration a few *miscellaneous* conditions which have often been under discussion as causes of heart disease or of heart strain. Undoubtedly in extreme cases there can be from some of them a little heart strain or irritation but none of them primarily produce heart disease so far as we know now from careful studies. These miscellaneous conditions include athletic sports, military strain, accidents, physical work in industries and labor, obesity, overeating, excessive use of tobacco or alcohol, and pregnancy. There are in addition rare examples of poisoning of the heart as by arsenic, but of these there is no need of discussion.

I have finished my brief review of the causes of heart disease, and I hope that I have demonstrated two things: first, that the subject is an important, difficult, and complicated one demanding some interest and help from all of you, and second, that some progress has already been made in the prevention of heart disease and that the outlook for the future is bright if we all cooperate in this vital work.

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CARDIAC PAIN WITH SPECIAL REFERENCE TO ANGINA PECTORIS AND CORONARY THROMBOSIS.*

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Practitioners are frequently called upon to meet the exhibition of cardiac pain and to act for its amelioration with promptness: it is hoped more clearly understanding the causes and interpretations of it, than heretofore. Much study of cardiac pain, with a close investigation of histories of cases, physical examinations, hospital records, electrocardiographic and post mortem check-ups have thrown a clearer light upon the grave significations of this very variable term "breast pang," sternalgia, sternodynia and what not. One should at once broaden the territorial location

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of cardiac pain from the old time understanding of the breast pang or substernal pain, because later day observations have brought home to clinicians that cardiac pain puts on very variable performances, in some provoking extreme anguish centering about the breast or precordial region and radiating down the left arm; others, expressing (mild) boring pain definitely located beneath the sternum or even referred below the diaphragm.

All so-called cardiac pains possess a significance of importance and should be recognized by alert physicians no matter how irregular or mild may be its exhibition in patients. In fact, to generalize, pains of any sort, in persons over forty-five, centering about the left chest, whether or not associated with irregular heart action, or occurring in patients with known hypertension or accompanied by a sudden loss of hypertension, should be thought of as connected with some serious malady of the heart, and, hence possibly significant of an ominous meaning.

Heart pain, from any one of the several heart conditions, later to be mentioned, is directly or indirectly associated with and dependent upon the blood supply of the heart. Indeed, this interference of the blood supply occurs in an organ, not at rest, but performing ceaseless function of contraction.

THE CORONARY ARTERIES

Then let us for a moment refresh our memories on the coronary blood supply in the heart, using Gray's classical description. The right coronary artery about the size of a crow's quill arises from the aorta immediately above the free margin of the anterior semilunar valve. It passes forward between the pulmonary artery and the right auricular appendix, then runs forward obliquely to the right side in the groove between the right auricle and ventricle, and curving around the right border of the heart, runs along its posterior surface as far as the posterior interventricular groove, where it divides into two branches, one of which continues onward in the groove between left auricle and ventricle, and anastomoses with the coronary; the other descends along the posterior interventricular furrow, supplying branches to both ventricles and to the septum, and anastomosing at the apex of the heart with the descending branches of the left coronary. This vessel sends a large branch

along the thin margin of the right ventricle to the apex, and numerous small branches to the right auricle and ventricle, and the commencement of the pulmonary artery.

The left coronary, larger than the former, arises immediately above the free edge of the left semilunar valve, a little higher than the right; it passes forward between the pulmonary artery and the left auricular appendix, and divides into two branches. Of these one passes transversely outward in the left auriculo-ventricular groove, and winds around the left border of the heart into its posterior surface where it anastomoses with the transverse branch of the right coronary; the other descends along the anterior interventricular groove to the apex of the heart, where it anastomoses with the descending branches of the right coronary. The left coronary supplies the left auricle, and its appendix, both ventricles and numerous small branches to the pulmonary artery and the commencement of the aorta.

Deeper divisions of both coronaries by subdivisions penetrate the entire heart wall in rich inter-anastomosing meshes which have a longitudinal arrangement, following the intricacies of the columnae carneae and spending themselves macroscopically under the endocardium (Gross).

Again, the blood supply of the neuro-muscular bundle should be noted in this connection. Variability marks the coronary blood supply of this important specialized cardiac structure. Haas, quoted by Gross,¹ held that, in the main, the right coronary artery plays the chief role, supplying two branches from the posterior coronary arch, supplying upper posterior half of the septum; further, supplying the posterior divisions of the neuro-muscular limb in left ventricle, and, second (a ramus septi fibrosi), supplying the inner muscular layers of both ventricles, a stout twig entering Tawara's node and losing itself in the main bundle and beginnings of both neuro-muscular limbs. The left main limb of neuro-muscular bundle is supplied nutrition by fine twigs from the left coronary, while the right limb lies just on the border between regions of arborization of the right and left coronary arteries in the septum.

While Haas was of the opinion that in the human heart no anastomoses exist between right and left coronary arteries in the auriculo-ventricular node and the main bundle, Gross,

after a study of 100 human hearts, holds that a distinct and specific blood supply exists for both sino-auricular and auriculo-ventricular nodes, the main bundle going to the first portion of the left limb and a large portion of the right limb of the neuro-muscular bundle, while the remainder showed a blood supply which corresponded to the area of heart musculature upon which it rested, and in this field there was anastomosis between branches of the left and right coronary arteries.

Since blood supply to the heart plays a definite etiologic relation to cardiac pain, some further amplifications may be made here on the anastomoses of the coronary arteries. Gross came to the general conclusion that the heart is perhaps the richest organ in the body as regards capillary and pre-capillary anastomoses between branches of the same coronary artery as well as between branches of both coronaries; further, that anastomoses exist between the coronaries and vessels from adjacent and attached organs, as found between coronaries and branches of the bronchial arteries, arteriae mammae internae and those arteries of the diaphragm. Gross remarked upon this situation, in part, by saying, if the obliteration of coronary blood supply is gradual and the circulation good, sufficient dilatation of anastomosing vessels can occur to preserve musculature.

Cardiac pain is also necessarily associated with the nervous connections of the human heart. Let us then mention briefly the nervous system's connection of heart pain as to the route pain impulse travels and the sites of body location. Recent surgical² treatment of angina pectoris, for instance, has relieved pain in a percentage of cases by division of nerves leading from the heart to the spinal nervous system, thus interrupting stimuli (supposedly) arising in the heart, which ultimately stimulated sensory nerves supplying chiefly the thorax, arms, and neck. Generally speaking, the total innervation of the heart is derived from the pneumogastric and sympathetics; in this is found the connection between the heart and the central nervous system. Both the vagus and sympathetic system convey sensory impulses from the heart and, together with recurrent nerve fibers, form the path way for pain impulses to the exterior.

This sensory expression of cardiac disturbances appears on the surface of the body in

some portion of the distribution of the upper four left dorsal nerves in the chest and arm; sometimes as low as the sixth dorsal nerve in the epigastrium; and sometimes as high as the eighth and seventh cervical, as distributed in the ulnar border of the fore-arm and hand. This type of cardiac pain is rarely felt on the right side. The breast pain is most frequently across the left chest and remains stationary there, or it may radiate into the axilla and down the arm on the ulnar border, sometimes stopping in the upper and fore-arm, later to the wrist and hand. Sometimes cardiac pain of this syndrome may start in the arm and radiate to the chest. But, as before indicated, heart pain arises from various associated causes and may present variability in types, locations, and degrees.

To illustrate a type of pain, a patient, recently in the hospital, called her pain a boring pain behind her breast-bone; some speak of the cardiac pain as being a dull pain like a growling tooth-ache; some call it a sickening pain, with a sense of oppression and fear; some describe the cardiac pain as a "tired feeling of the heart." These various expressions of cardiac pain betoken rather different shades of cardiac pathology and function. Probably Musser's⁴ recent paper, calling attention to White and Wood's classification of heart pain, puts the matter before us in succinct fashion. They classify cardiac pain first, into a simple fatigue pain which arises in (a) chronic hypertension, (b) in aortic stenosis and regurgitation, (c) in mitral stenosis and other valvular lesions, and (d) in disturbance of cardiac rhythm, such as paroxysmal tachycardia, or paroxysmal auricular fibrillation, or flutter, or permanent auricular fibrillation or flutter with high ventricular rate; second, into paroxysmal cardiac pain, severe or mild, due to angina pectoris; third, pain of coronary thrombosis or infarction.

Now, simple fatigue pain of the heart is by far the most common type of heart discomfort. Its very mildness deceives the patient, but should excite inquisitiveness on the part of the physician, because an investigation of precordial distress may lift the curtain and disclose the presence of a grave cardiac malady. It is not difficult to visualize, if we recall the blood supply and nervous innervation of the heart, the occurrence of a fatigue pain in a cardiac irregularity, as, for instance, parox-

ysmal tachycardia or auricular flutter, in which there may be 220 auricular beatings per minute, or auricular fibrillation of 450 beatings per minute. It is not difficult to interpret the feeling of a precordial distress of the patient with high blood pressure, or with chronic valvular disease with hypertrophy and dilatation of the myocardium. These patients suffer discomforting and disquieting precordial pain, which is spoken of as characterized by fatigue pain.

But it is the main purpose of this note on heart pains to draw special attention to cardiac pains as found in the syndromes of (1) angina pectoris, and (2) coronary thrombosis. Pain in angina pectoris has received a rather critical inquiry recently at the hands of Keeper and Resnik (*Archives of Internal Medicine*, Vol. 41, No. 6, page 770), and various theories as to actual cause of this paroxysmal type of cardiac pain have been discussed. Objection has been offered to the acceptance of coronary disease as a cause in all cases of angina pectoris, although it has been conceded to be present in a definite percentage of cases. While coronary spasm has been controverted by these authors as a cause of angina pectoris, they have offered it as their theory that anoxemia of the myocardium more completely explains the occurrence of pain in angina pectoris of Heberden. It becomes necessary to recognize that angina pectoris cases of the past have been somewhat confused with coronary infarction cases. But it is easily conceivable that angina pectoris may arise without demonstrable evidence of actual disease in the coronaries after death. It is quite possible that an anoxemia or an ischemia of the myocardium may occur in an effort (contracting) of the fatigued heart, without actual permanent disease of the openings or in the channel or walls of coronaries. The outstanding diagnostic feature of angina is the paroxysmal character of the pain occasioned by effort, or relieved temporarily by rest and nitrites, because rest and nitrites improve coronary circulation to the ischemic or anoxic heart muscle, thus relieving cardiac pain. Although intense pain is experienced in some cases, ventricular systole proceeds with regular rhythm and, although the patient expresses the sense of fear, the heart rate continues regular. The angina pectoris of Heberden may, however, be characterized by sudden death. Immediate death may occur in

partial coronary occlusion when a sufficient area of auricular and ventricular circulation is involved to produce either sudden suspension of function of the neuromuscular bundle or auriculo-ventricular action. This may occur in a previously diseased heart, either in the blood vessels or myocardium. Angina pectoris, we must recall, is a syndrome of the fifth decade and beyond.

But cardiac pain must include a consideration of coronary disease and thrombosis. We must reiterate our belief that cases of angina pectoris have been, and probably are being, confused with coronary thrombosis. Likewise, it is true, as recently experienced in my practice, one may have angina pectoris at the beginning, and coronary thrombosis at the end of an acute cardiac syndrome. One may have angina pectoris that responds to nitrites for a time; then, suddenly or gradually, cardiac pain fails to disappear under nitrites, and the heart becomes irregular, blood-pressure falls, shock and collapse appear, with presence of leucocytosis, pericardial friction rub, rales in the base of the lungs, and pain over the epigastrium and right hypochondrium.

Thus cardiac pain may announce coronary thrombosis. One has only to recall the origin and distribution of the coronaries furnishing blood supply to a constantly working organ in order to conceive of the varieties of cardiac pain one may see. Coronary thrombosis is a distinct cardiac entity and must be differentiated from angina pectoris. If for no other reason, the therapeutic management demands this distinction. Anderson⁵ has recently arranged the signs in concise order:

Attacks of pain in coronary thrombosis may be sudden or gradual, or may be a part of an anginal paroxysm.

1. Anxious expression.
2. Ashen color of skin.
3. Posture not characteristic, but patient often sits up and leans forward, sometimes holding the chest transfixed.
4. Pulse is weak; may be alternating, regular, or irregular, slow or fast, unlike angina pectoris.
5. Blood pressure shows sudden drop in both systolic and diastolic pressures from normal or from previous higher levels.
6. Fever appears, about 99 to 101, at end of first day.

7. Respiration may be normal, but may be shallow, rapid or forced. Auscultation often elicits rales at the bases, sometimes suggesting pneumonia.

8. Heart impulse is feeble, and percussion may elicit increased diameter of the heart.

9. Heart sounds are usually feeble; systolic murmur may be heard at the base and apex; irregular rate is noted often in previously regular heart. Pericardial friction is often present. This distinctive sign is not always present and not always easily heard. Roughening of visceral pericardium depends, of course, on the location and amount of infarction in the myocardium.

10. Liver signs confuse the diagnosis often. Pain over the liver may so quickly appear in clinical evolution of coronary infarction that patient and physician may be misled into suspecting too strongly gall-stone colic, acute cholecystitis, acute pancreatitis, even appendicitis, or perforating duodenal ulcer. Acute abdominal pain has frequently beclouded an interpretation of coronary thrombosis. Marked and sudden distention of the liver, characterized by pain, resulting from distention and irritation of Glisson's capsule, is to be kept in mind in these cases.

11. Signs of gradual heart failure may follow. The order of appearance of signs in the liver and lungs may be an index of right or left coronary thrombosis,—in the right, liver signs; in left, lung signs. But one must remember distinctions and anastomoses of the coronaries in reaching this differentiation.

12. Embolic phenomena may appear breaking out of the thrombotic field of the endocardium.

13. Laboratory signs in thrombosis, varying with inflammatory involvement, show leucocytosis of 10,000 to 20,000.

14. Electrocardiographic signs are significant and diagnostic. A vast amount of recent study has been reported in this field, but I shall make only a brief and dogmatic reference to this diagnostic sign.

F. M. Smith studied the heart electrocardiographically after ligation of the left coronary, and many others have reported electrocardiographic signs in coronary thrombosis, left and right. Location and extent of infarction effects electrocardiographic signs as does the state of integrity of the heart in general. Disturbance of rhythm and of conductions may

be noted. The more frequent abnormalities of electrocardiograms are connected with the ventricular complexes; but it is in the T-wave, at the final activation of ventricular musculature toward the arterial orifices, that one gets the most characteristic sign. Without going into the subject in too much detail, let me say that tracings that show complete or partial bundle branch disturbance in previously normal electrocardiographic tracings, slight change in the Q. R. S. complexes, with inversion of T-wave in two or more leads, are significant of coronary thrombosis. T-wave is affected by digitalis, so, where digitalis has been given, the interpretation is not dependable. T-wave in two leads inversion is a grave prognostic symptom. Patients with T-wave inversion in two leads demand careful medication and strict control from effort and excitement or indigestion. The older the heart, the richer the anastomoses, but the greater the loss of reserve strength in the unaffected myocardium. But with the collateral of coronary arteries and anastomoses, if proper care is practiced during the post-infarction period until compensatory circulatory adjustment can be made, these patients having escaped sudden death during the initial stage of infarction, may live useful, but abridged lives for years.

CASE REPORT

Coronary thrombosis following a series of anginal paroxysms is well illustrated in a patient whom I saw last April. This patient, a white male, retired from business, aged about sixty years, was seized suddenly on April 23rd, while in New York attending theater; was taken to Dr. Coley, who gave emergency treatment and advised the patient to go at once to a hospital there. This the patient, somewhat relieved for the time being, refused to do, and took the train for his home in Richmond. He suffered an attack of severe chest pain shortly after reaching his residence, but gave history of a rather comfortable journey down during the night.

When first seen by me in response to a hurried call, the patient was seated in a chair with attitude of one in extreme pain, but with good color and regular pulse. He said he was suffering severely over his heart. Amyl nitrite pearls gave him quick relief. Patient was put to bed. Nurse summoned and nitroglycerin and nitrite sodium were prescribed for attacks. His blood pressure was 160 sys-

tolic and 80 diastolic; heart sounds good; systolic murmur at apex; pulse rate was 80.

For seven days this patient had from three to five paroxysms of pain over the chest and running down his left arm. Each attack was well and promptly relieved in from five to fifteen minutes by resort to one or another or a combination of nitrites. No morphine was given. Pulse remained good in quality, excepting loss of resistance shortly after nitrites; blood pressure reading varied very little if any; color and morale of the patient were good.

On the seventh day, April 29th, nurse's notes stated that patient ate breakfast and had an attack of pain during breakfast, with pulse of 88 and regular. Administration of amyl nitrite relieved patient, but a dull pain continued over the heart; another amyl nitrite caused slight relief. At 12 o'clock, another severe pain seized the heart, and amyl nitrite, nitroglycerin, euphyllin tablets, closely administered, gave no relief. At 12:40, pain was growing worse; patient showed pulse weakness and a drop of the rate to 60 beats a minute, with extremities cold and clammy. I was called and arrived at his bedside at 1 o'clock. I found the patient pulseless at radial artery; pain was not so severe; heart was slow in action and so weak that the sounds were almost indiscernible; patient was in a cold sweat over face, neck, chest, and body; very pale; pupils dilated; shallow and rapid breathing.

Adrenalin chloride and caffein sodio-benzoate with morphine sulphate, 1/6 grain, was quickly given hypodermically. Heat was applied and blood pressure was read, but no record of it could be gotten. In twenty minutes caffein and adrenalin chloride were repeated. At 1:30 pulse was felt at the wrist; heart sounds had previously become more audible and pulse rate at 2:30 was 72 per minute, though of very poor quality. But there was no pain,—all pain was relieved. At 4:20, pulse grew very weak; as I attended the patient continuously, morphine, 1/4 grain, and atropine, 1/100 grain, were given hypodermically. Pulse rate fell to 64 per minute; absence of pain continued. Coramine was given hypodermically 4:30 P. M. Pulse at 9 P. M. was 98, and temperature 99.4; rales were elicited in posterior bases of lungs. At 12, midnight, pulse was 72 per minute, but was irregular for

the first time; and temperature was 100 F.; respiration 18 and patient complained of pain when breathing.

At 8 o'clock, April 30th, patient's pulse was 76, but arrhythmia was marked. Temperature was 100.4; respiration 22; but there was no pain. From this time the patient suffered no chest pain; pulse rate fell to 58 per minute and was characteristically irregular and weak, blood pressure readings being around 90 m.m. Hg. systolic.

Hiccoughing annoyed the patient for several days; rales cleared in the bases of the lungs; blood pressure 108/80; pulse 60, with occasional irregularity, but no cardiac pain occurred.

On May 12th, temperature was normal, pulse 78, respiration 16; no pain on breathing; blood pressure 90/60.

The patient was kept in bed for four months, with fair improvement, but heart occasionally displayed marked irregularity, with low blood pressure, and slow rate.

A series of three electrocardiograms were made on this patient, and T-inversion was noted in each in two leads.

This patient, now seven months since first taken, is enjoying fair health, but is allowed no exercise. He has had no cardiac pain. Diagnosis was made of thrombosis of a large branch of the left coronary artery following a seizure of angina pectoris. This was based upon clinical signs and symptoms,—sudden cessation of pain, with collapse and fall of blood pressure, slowing of heart rate, with irregularity, temperature 100 F., rales in base of lungs, no pain over liver, and electrocardiographic T-wave inversion in two leads.

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1135 West Franklin Street.

If you don't believe in yourself, you've lost before you've fought. Master your fears—just give yourself the show that you'd ask from anyone else and you've won the greatest part of your battle.—*Selected.*

UNDULANT FEVER.*

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Undulant fever may be defined, at least for the present, as a specific infectious disease caused by a member of the bacterial genus *Brucella*.

It includes the disease formerly known as Malta fever, which has about fifty synonyms recorded in the literature. The name undulant fever was proposed by Hughes¹ in 1896 as descriptive of the long wavy appearance of the fever chart of the patient. Recently the terms "brucelliasis" and "brucellosis," meaning the state of being infected with *Brucella*, have appeared. In some respects these terms are preferable, for the fever in man is not always undulant in type, nor do infected pregnant animals always abort.

While the writings of Hippocrates contain paragraphs that suggest a description of undulant fever, the accurate description of the disease dates from the work of Marston in 1859. In 1886 Bruce,² of the British Army, discovered the causative organism of Malta fever, and in 1887 isolated it in pure culture from a fatal case of the disease. He named this organism *micrococcus melitensis*. The disease as it occurred in Malta was one of the worst scourges of the military and naval forces, its prolonged course rendering men unfit for duty for months. Osler gives the average duration of nearly 3,000 cases as 120 days.

In 1904 a Commission³ was appointed to study the disease in Malta and, after one to two years of research, discovered that the Maltese goats were infected with the disease, and that the organism was eliminated in the goat's milk. Confirmation of this discovery was furnished late in 1900 by an outbreak of the fever on the *S. S. Joshua Nicholson*, which carried a shipment of milch goats from Malta to Antwerp. The milk of these goats was used by members of the crew, and of those whose history could subsequently be traced, all who consumed this milk contracted the disease, except two engineers. It then developed that these engineers always boiled their milk before using it.

The boiling of milk used by the military forces in Malta, following the discovery that the organism was present in goat's milk, re-

sulted in a rapid subsidence of the disease in the military population.

In 1897 Bang,⁴ of Denmark, isolated an organism from cows that had aborted to which he gave the name *Bacillus abortus*. This organism was found to be the cause of much of the contagious abortion in cattle and other animals. In 1914, Traum⁵ isolated an organism thought to be *Bacillus abortus* from swine, though it has since been found to differ from *B. abortus* in some particulars. In 1916, Good and Smith⁶ described this swine organism.

The later knowledge of undulant fever dates from 1918, when Alice Evans,⁷ of the Bureau of Animal Industry, United States Department of Agriculture (now with the United States Public Health Service) published her work showing that *Bacillus abortus* and *Micrococcus melitensis* were so closely related that they were indistinguishable except by very highly specialized laboratory tests. This report was soon confirmed by others, and the question of whether *Bacillus abortus* could cause disease in man was immediately recognized.

In 1924, Keefer⁸ reported a case of fever resembling Malta fever, due to the abortus organism. Prior to this Craig⁹ reported a case of Malta fever in the United States in 1905, and about 1911 Ferenbaugh and Gentry¹⁰ reported the occurrence of a number of cases of Malta fever in the goat raising section in southwestern Texas.

In the meantime the names of the organisms had undergone a change, the generic name, *Brucella* (in honor of Bruce), being given to the group. The original *Micrococcus melitensis* became *Brucella melitensis*, and the *Bacillus abortus* is now usually spoken of as *Brucella abortus*. It is customary to speak of the bovine and porcine strains of *Br. abortus* in referring to the organism originally isolated from cattle and swine by Bang and Traum, respectively. Huddleson¹¹ suggests the name *Brucella suis* for the swine organism.

Prevalence.—Though the disease has been reported in various sections of the world, we are chiefly interested in its prevalence in the United States. I am indebted to Acting Assistant Surgeon A. V. Hardy¹² for the following figures:

Prior to 1925 there were 128 cases reported, and 121 of these were in Texas, New Mexico, and Arizona.

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In 1925—five states reported twenty-four cases (Texas had sixteen of these).

In 1926—eight states reported forty-six cases.

In 1927—twenty-one states reported 217 cases.

In 1928—forty-one states reported 649 cases.

In 1929—(to May 31) thirty-two states reported 359 cases.

The total of these figures is 1,423, and over 1,000 of these have been reported since January 1, 1928. On November 30, 1929, the disease had been reported, or was known to be present, in every state of the Union.

Clinical Aspects.—I am sure that practically every physician present has, at some time in his professional life, seen cases of fever that he has not been able to diagnose to his own complete satisfaction. Some of the older ones will recall the days when *febricula* and *ephemeral fever* were used to meet the demand of a diagnosis in such cases. I fear there is a tendency nowadays to ascribe most of these cases to "influenza."

The clinical symptoms of undulant fever are many, but three are quite commonly present, viz., fever, chills (or chilliness), and sweats. To these I would add that in a majority of cases the patient exhibits a peculiar lack of discomfort which is remarkable when the degree of fever present is considered. This general appearance of the patient contrasts markedly with the dull and depressed condition of typhoid fever.

The onset of the disease is usually insidious; in fact, the patient frequently has difficulty in recalling just when he began to feel sick. He usually states that for some time he has noticed that he did not feel exactly normal, tires easily and feels weak generally. It is not infrequent for him to feel well in the morning and start on his usual daily duties, only to tire out and cease work in the early afternoon. Occasionally he feels feverish and, if the thermometer is used, a surprising degree of fever will be found. Frequently the patient complains of chilliness, in some cases severe rigors, followed by fever and profuse sweats. This syndrome is suggestive of malaria, but I have interviewed a few cases that had previously had malaria and they stated that their chill and fever were not like malarial attacks. The chills may occur more than once during

the day, or may be several days apart without any regular periodicity as is usually seen in malaria.

The name undulant fever is taken from the fever curve, but this does not always run a true undulating course. Roughly speaking, a typical undulant curve resembles a typhoid fever chart with from one to three relapses. Hughes describes a remittent form of temperature curve which does not show the long waves but a considerable daily variation over a period of several weeks. He also describes a malignant type, fortunately rather rare, in which the fever is high and practically continuous for two to three weeks, usually ending fatally. He also describes an ambulant type with an irregular low grade fever.

If the temperature is taken several times during the day quite unusual variations are sometimes seen. It may reach a high degree before noon, then drop in the middle of the day, and rise again in the late afternoon. Like most fevers, it is customary to have the lowest temperature in the morning and a rise in the evening.

The sweating of undulant fever is quite characteristic, though a few cases report no sweating. The majority describe a profuse "drenching" perspiration, which accompanies a fall in temperature, and it usually takes place during sleep. The cases I have interviewed have been asked if the sweat was confined to any part of the body and a majority have stated it was on the upper half of the body, particularly around the head, neck, and shoulders. A peculiar strong odor of the sweat has been noticed by some patients.

Subjectively, the patient may complain of general aching all over the body or more or less localized pain. Headache is usual at the beginning of the febrile stage. Backache and muscular pains, especially in the back of the neck, are frequently reported. Some cases complain of pain that suggests a neuritis, and abdominal pain is not infrequent. Pains in the joints are rather frequent and are suggestive of rheumatic fever. Objectively, the joints may show some swelling but it soon subsides, though the pain may continue. It is the joint symptoms that frequently make the patient an invalid for long periods.

Respiratory symptoms are usually meager. There may be a slight unproductive cough at the beginning of the disease and in some cases

sore throat is a complaint. Epistaxis may be present in a few cases.

Cardiac symptoms are not frequent, though a few cases seem to have a bacterial endocarditis, and these cases may prove fatal. In such cases the pulse is rapid, but in the average case the pulse rate is low when considered with the accompanying fever.

Anorexia at the beginning and constipation throughout the disease are usually reported.

Of the nervous symptoms, insomnia is usually the most troublesome. Increased irritability is frequent and an abnormal degree of apprehension is occasionally seen. One case I have seen had a history of temporary insanity, and in several the fever has subsided and left the patient in what seems to be an extreme neurasthenic condition. Genito-urinary complications are not very frequent, though orchitis or epididymitis occur in a few cases. Prostatic symptoms have been observed. In females the infection has been found in an ovarian lesion and menstrual disturbances have been reported by some, while others report no apparent effect on this function. Those reporting disturbances have practically all suffered from delayed menstruation, and one reported complete suppression. A few women have aborted or had premature labors. Whether the *Brucella* infection was the causative factor is not determined, but knowing that the organism is a proven cause of abortion in domestic animals should warn us to be on watch for such a result in pregnant women. If an abortion takes place in a woman known to have, or suspected of having, undulant fever, a bacteriological examination of the expelled uterine contents should be made.

Physical examination is frequently entirely negative. An enlarged spleen is reported in about a third of the cases. Urine examination is usually negative, though a slight albuminuria may be found.

Blood examination usually shows a slight anemia, a slight leucopenia, and the differential count shows an increase of the lymphocytes with a corresponding decrease of the polymorphonuclear cells.

Loss of weight is almost always noted, the loss varying from five to forty pounds.

Diagnosis.—"The key which opens the door of diagnosis is suspicion." If I succeed in leaving with you anything that may lead you to suspect that a puzzling case may be un-

dulant fever, the object of this paper will have been attained. How many of us have failed to make a correct diagnosis because the actual condition never occurred to us?

If you are consulted by a patient complaining of what appears to be a slight fever; if, perhaps, you are impressed with the fact that he does not seem very sick, and perhaps think he is making the most of his symptoms; if he complains of tiring easily upon slight exertion; and if, on using your clinical thermometer, you are surprised to find him with a fever of 101° to 104° , your suspicion should turn toward undulant fever and laboratory aid should be sought.

The diagnosis depends finally upon laboratory tests. The most convincing evidence is the obtaining of a culture of *Brucella* from the blood stream. This is not always possible, as it usually requires that the bacteriologist visit the case and take the specimen himself. The *Brucella* are slow growing organisms and any contamination will soon outgrow the *Brucella*. If blood cultures are made they should be incubated twenty to thirty days before being thrown out.

The test that is usually applicable is the agglutination test. The more recent publications on the significance of *Brucella* agglutinins in human blood seem to show that the presence of these agglutinins is evidence of an infection, either past or present, with living *Brucella* organisms. It seems probable that some individuals may develop these agglutinins from the ingestion of *Brucella* in doses too small to produce symptoms of the disease. Such persons may give a positive agglutination test in low dilution without having exhibited any symptoms of undulant fever. At the Hygienic Laboratory at Washington we have considered a positive agglutination in 1:80 dilution, or higher, as significant of undulant fever, if clinical symptoms are present.

The blood specimen that is submitted to the laboratory should be taken as is blood for the Wassermann test. Dried blood specimens are unsatisfactory. Five to 10 c.c. of blood in a sterile glass container will be sufficient to do all the serum tests that you desire.

Prognosis is good as regards life, but uncertain as to duration of the disability arising from the disease. The mortality rate is usually given as 2 to 3 per cent, though I have

found higher figures in some localities. This may be due to incomplete reporting of cases due to non-recognition, or to failure to report recognized cases.

Treatment.—As practicing physicians, you are all interested in the curing of your patients' ills, and naturally want to know how to cure undulant fever. I regret that this particular aspect of this paper will be disappointing, for we have no specific treatment for the disease. Mercurochrome, mercurophen, and acriflavin have been used in attempts at specific chemotherapy. Vaccine therapy has been used with good results by some, with disappointing results by others. Some have used foreign protein injections, usually sterilized milk, and have reported beneficial results. However, relapses and recurrences are numerous in cases treated by each of these methods.

We advise keeping the patient in bed during the febrile stage, the use of a liberal diet, and the treatment of symptoms and complications as they arise.

The question of immunity conferred by an attack is a point for discussion. The great difficulty has been to determine when a patient has completely recovered. In other words, is his second febrile attack a second infection or a relapse or recurrence of the first? From work on experimental animals it seems probable that one attack confers immunity.

Epidemiology.—I now come to a consideration of that phase of the disease with which the organization that I represent is most interested—the public health aspects of undulant fever.

If we consider mortality rates alone, we might properly turn our attention to other diseases that actually end the life of more people. However, if we consider the economic loss entailed by a total disability of three to twelve months, and the added community expense of maintenance of a dependent family, if the patient happens to be the supporting wage earner, we will soon be talking in figures far too large for the average doctor to comprehend. In addition to this loss, there must be added a still greater one due to its effects on the livestock of the country. It is therefore incumbent on every physician to do all he can to prevent the disease in man and to support any reasonable plan to eradicate the infection from our domestic animals.

The disease is apparently conveyed to man

by two methods: ingestion of raw infected milk and dairy products, and by contact with infected animals, either living or dead. A few cases also result from laboratory infection of those working with the disease in laboratories.

As to the exact portal of entry into the body, we know that the feeding of infected materials to experimental animals has given excellent results. The number of cases of the disease in man that report the use of raw milk infected with *Brucella* furnishes rather convincing evidence that the alimentary tract is one, if not the chief, portal of entry of the organism. However, some cases give no history of consuming milk, but do give evidence of having been associated rather closely with infected animals either by working around the living animals or by handling their carcasses and by-products after slaughter. Whether in these cases the infection gains access to the body through the mouth (by accidental transfer from soiled hands), through cuts or abrasions, or through the unbroken skin is a question that is under discussion.

Hardy¹² has reported the infection of a fair percentage of guinea pigs by placing cultures of *Brucella* on the unbroken skin with no preparatory treatment other than clipping of the hair.

From the viewpoint of the epidemiologist the cases are divided into three groups: (1) Milk-borne; (2) Those due to contact with infected animals, and (3) Those exposed to infection through both these channels.

The number of cases in the last group is large, as a majority of cases among farmers and their families fall into this group because they work around infected animals on their farms and also use milk obtained from these animals. Occasionally it will be possible to assign them to one of the first two groups.

Those cases definitely traceable to probable infection through contact with infected animals will usually be found following an occupation that brings them in direct contact with infected animals, or animal products, and such occupations may be classed as hazardous. Such occupations are butchers, veterinarians, packing-house employees, and farmers who work around livestock. Occupations that are less hazardous but give occasional opportunity for infection are truckmen and freight and express warehouse men.

The majority of cases definitely attributed

to milk-borne infection are found in cities or villages, and nearly all are found to be users of raw milk. It is also worthy of note that cities that have a high percentage of their milk pasteurized report few cases, except those that come to the city from the surrounding country, either casually, or seeking treatment for their illness. In California, San Francisco with 97 per cent of its milk pasteurized (1923 figures) is practically free of the disease. Los Angeles City with about 80 per cent of its milk pasteurized, furnished about one-third, and Los Angeles County, which includes the city, about one-half of the total reported cases of the state during the two and one-half years from January 1, 1927, to July 1, 1929.

New York State has had over 150 cases, but New York City has been practically free. New York City reported one case¹³ in a man who worked as a painter in a milk pasteurizing plant, who admitted drinking milk in the plant before it was pasteurized.

Carpenter and Boak¹⁴ have reported that when milk is allowed to stand the greatest number of abortus organisms will be found in the cream. They found that the *Brucella abortus* remained viable in cream for eight to ten days at refrigerator temperature, and lived in butter made from unpasteurized sweet cream for 142 days. They also found that the organism could not be found after the cream or milk had soured. Fortunately, most of the butter made from sweet cream is made in creameries that pasteurize their cream for commercial reasons, and a large part of the dairy butter or so-called country butter is made from sour cream. This materially reduces the danger of infection through butter. The probability of infection through cheese is also rather small, for the acid-forming organisms produce conditions unfavorable for the existence of *Brucella abortus*.

The fact that young children are relatively rarely attacked by the disease seems to argue against milk-borne infection. However, veterinarians agree that calves before reaching sexual maturity are relatively immune to the infection, and the same seems to hold good for children below the age of puberty. A few cases have occurred in young children, but probably some special condition, such as massive doses of the infecting organism, is neces-

sary to break the seeming immunity of young children.

Another fact that stands out prominently is the excess of males who contract the disease. On the whole, the proportion of males to females is at least two to one. In rural districts this excess of males is greater, while in cities the sex incidence is more nearly equal. The most reasonable explanation of this seems to be that males are more exposed to contact infection by reason of their occupation. It is also possible that they are more exposed to milk infection. Many men travel or at least take meals away from home, while women are more likely to eat at home, where their exposure to milk-borne disease is usually confined to a single supply, while the men are exposed to infection through milk from a number of sources.

Although there is good evidence that some of the undulant fever is due to consumption of infected raw milk, there is also evidence that much milk from cows infected with contagious abortion has been consumed in the raw state by persons who have not developed undulant fever. Indeed, probably the vast majority of persons who use raw milk do not develop undulant fever. There are several explanations offered, all of which require more proof. It is admitted by most pathologists that the bovine strain of *Brucella abortus* is less pathogenic for laboratory animals than is the porcine strain, or the *Brucella melitensis*. Some claim that the pathogenicity of bovine *Brucella abortus* for man is not proven, and others believe it pathogenic under certain conditions. It must be admitted that *Brucella abortus* does not cause disease in all who ingest the organism in milk. The fact that usually only one member of a family is attacked is cited in support of this contention. On the other hand, a few cases have been reported in which bovine *Brucella abortus* has been isolated from the patient's blood.

I am inclined to favor the theory that the determining factor in the incidence of undulant fever from infected milk is due to a question of dosage of the infecting organism, which is also affected by the virulence of the particular strain of organism present. We do not know the minimum dose of *Brucella* required to produce the disease, but have reason to believe it is a variable quantity because of the difference in pathogenicity of strains.

We do know that all members of the *Brucella* genus grow slowly in laboratory media, including milk. They take at least a week to produce as much visible growth as does the typhoid bacillus in eighteen hours. It seems probable that *Brucella* organisms do not multiply to any great extent, if at all, in milk after it is drawn from the cow's udder.

Not all cows that have been infected with contagious abortion eliminate the organism in their milk. If the abortus infected milk of a few cows is mixed with that of a large number of cows whose milk is free of the organism, the resulting dilution probably soon reduces the number of *Brucella* in a given amount of milk to less than an infecting dose. Occasionally the infection might become concentrated in a small portion of the mixed milk—say in a single can—and possibly reach the consumer in sufficient dosage to cause the disease. It is also possible that the resistance of the individual may have to be at a low stage before the the infection can secure a foothold.

If this argument is correct, we probably will seldom, if ever, see a widespread, overwhelming, explosive epidemic of undulant fever unless conditions as to pathogenicity of organism and extent of infection in livestock become radically worse than at present. On the other hand, a certain number will be incapacitated by undulant fever of milk-borne origin, and these cases are preventable by pasteurization of the milk.

The ideal method of preventing undulant fever is the eradication of the infection from our domestic animals, particularly cattle and swine. This is being attempted in some states, and fair progress is reported. Authorities of some other states think it is not practicable. It will be a long time before eradication can be accomplished, and in the meantime the health of the people should be protected.

Pasteurization will effectively prevent milk-borne infection. Contact infection will probably cause some cases as long as we have the infection in livestock, but these can be reduced in number by educating those concerned as to the nature of the infection, the hazard under which they work, and such prophylactic measures as each case may demand.

Our activities should for the present be directed along these lines: (1) Accurate diagnosis of the disease and reporting of same to health authorities; (2) The spread of infor-

mation concerning the disease, especially to those whose occupation subjects them to probable contact infections; (3) The more extensive use of pasteurized milk; (4) Wholehearted support and cooperation with agricultural or veterinary officials in their attempts to eradicate the infection from livestock.

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THE APPROACH TO UROLOGIC SURGERY.*

By JOSEPH F. GEISINGER, M. D., Richmond, Va.

Upon previous occasions I have undertaken to emphasize a group of what have always appeared to me to be fundamental considerations in connection with the management of urological problems, namely, comprehensive pre-operative study in all cases, careful and thorough pre-operative treatment in many cases, and a painstaking effort in not a few cases to avoid surgery entirely and thereby conserve tissues which may at some future date represent the patient's main hope of existence.

It has been stimulating to find in the literature from time to time reports in a similar vein from observers in certain of the outstanding urological clinics of the country. My own return to the subject is induced by the persistent recurrence of cases illustrative of these considerations as well as by my conviction that decidedly too little attention has been given to

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them, with the result that major urological surgery is not infrequently undertaken upon insufficient data and with little or no regard for the value of preliminary preparation; and that some of this surgery would be found unnecessary or inadvisable if the possibilities of less radical measures were properly estimated.

PRELIMINARY STUDY

In but rare instances will the surgery of the upper urinary tract appear to be of an emergency character. Usually the situation permits, and demands, an orderly and unhurried investigation. In this way only can essential conditions be determined and logical procedures mapped out. The assertion occasionally seen that the cystoscope has rendered urologic diagnosis precise in all its details is perhaps a bit over-enthusiastic. Various problems, especially in relation to the interpretation of certain pyelographic and urographic data, and in connection with conditions apparently linked with some little understood anatomical and physiological associations of the tract, still perplex the thoughtful urologist and invite his study. In the main, however, it may be accurately stated that modern instrumental procedures have cleared the field of most of its uncertainties, so that the surgeon may now approach the table with little or nothing left to the questionable evidence gathered in the course of the operation itself. The difficulty of determining by such evidence the existence of renal tuberculosis or a papilloma in the pelvis, for instance, or of localizing calculi, or of estimating the amount of functioning structure left, is so manifest that an exploratory operation on a kidney for such purposes is now permissible under only the most unusual circumstances. This data, along with a comprehensive exposition of the condition of the opposite urinary tract, should all be fully assembled before operation is undertaken, so that the actual surgery may proceed with relatively little regard to local findings at the time, and with almost no uncertainty as to whether the kidney should come out or stay in, or whether a calculus should be removed by pyelotomy or nephrotomy, or whether a sound kidney is present on the other side. It is not meant to imply that in the course of the operation the surgeon does not here, as elsewhere, exercise constantly that judgment which is one of his chief assets; but, however great his judgment, he cannot hope

by palpation or inspection of a kidney to demonstrate sufficiently for his guidance essential lesions upon the interior of the organ; and this is sometimes true even after wide section of the kidney, to say nothing of the unjustifiable operative traumatism under such circumstances. In other words, speaking broadly, the surgery of the upper urinary tract should represent the accomplishment of a final step already defined by preliminary study, and not an exploration for the disclosure of the character as well as the execution of that step. Especially is it necessary to recall the extreme importance of demonstrating satisfactory function on the supposedly sound side; and if, in the course of a planned nephrectomy, this essential data is lacking, it is vastly better to close the wound and do a secondary operation than to risk the chance of removing a solitary kidney or one that is the patient's chief sustenance so far as renal function is concerned.

PRELIMINARY TREATMENT

Ordinarily, after this preliminary study has pointed the way toward the necessary therapeutics, surgery, if indicated, can be approached without any particular delay, and the case disposed of without more ado. In many instances, however, the investigation, if comprehensive, will reveal not only the surgical lesion under suspicion but also some associated, perhaps complicating, pathology on the same side, on the opposite side, or on both sides. Too often this secondary aspect of the clinical picture is either ignored or entirely overlooked, and yet attention to it will almost invariably be rewarded by a definite increase in the factor of safety in the oncoming operation, by happier convalescence, by reduction in the likelihood of recurrences, and sometimes by the substitution of procedures of lesser magnitude for those which at first seemed imperative.

It will hardly be disputed that scrupulous care in preliminary treatment has revolutionized prostatic surgery and has assumed a position of commanding importance, even beyond that of the operation itself. If so much has been gained here, it seems reasonable to insist upon an application of the same principle to the upper urinary tract when circumstances appear to make this desirable. For instance, ureteral (catheter) drainage of an infected hydronephrosis or of an active pyonephrosis as

a preliminary to surgery, combined with general medical measures, forced fluids, and regulated dietary will rid the system of sepsis, reduce toxemia, relieve the load upon the kidney to be left behind, and get the patient in the best possible condition to withstand the shock of operation. Again, a little time spent in clearing the opposite kidney of a coincident infection may spare the patient an acute post-operative exacerbation in an organ which desperately needs all its reserves, unhampered, when it begins to assume the entire burden of renal excretion. Failure to dilate a stricture in the ureter may mean the persistence of stasis and the early recurrence of the calculus for which the operation is to be performed. With an acute hydronephrosis and infection secondary to the impaction of a calculus, it may be possible to push the stone back into the pelvis or circumvent it with a catheter, release the tension in the kidney, and subdue the infection; if so, the subsequent operative removal of the calculus may be freed of much of the danger that would otherwise have attended it. Finally, it is not uncommon to find an essentially sound kidney disturbed to the point of serious functional loss by reflex, toxic, or other influences emanating from the opposite side or from some other area of the body; here, to the destroyed function of one side, is added the crippled function of the other, and in such a situation surgery must be approached with extreme circumspection; careful, painstaking preliminary treatment, the nature of which will be dictated by the circumstances existing, and the length of which will be determined by the response of the patient, will often produce such a transformation that an operative procedure which, if hurried, might have been promptly fatal, will in the end be performed with great safety and without complications.

Other illustrations might be cited but are probably unnecessary. Surely they represent desiderata worth considering, and the urologist may be pardoned for his reiteration of the principle which he has adopted as his own guide, namely, that the renal excretory system as a whole be estimated in connection with any contemplated operative procedure within the urinary tract.

CONSERVATISM IN SURGERY

A readjustment of certain surgical attitudes in relation to the urinary tract has been in

process of development in very recent years, and will probably be further emphasized in the future. The fact that the human anatomy is blessed with a superabundance of renal tissue has led to a rather careless regard for it at times. Furthermore, as pointed out by Chute in a thoughtful article, modern methods of diagnosis have led to the disclosure of various minor and hitherto unknown conditions within the urinary channels, many of them of no real consequence, but some of them leading to the development of new operative measures, not a few of which are unnecessary to say the least.

One does not, of course, question the immediate surgical significance of conditions such as pyonephrosis, advanced hydronephrosis, calculi of certain types, neoplasms, obstructive anomalies, or unilateral tuberculosis. Though the calculous problem appears to be of growing complexity, and the question of tuberculosis is still unsettled, all these conditions are commonly and properly regarded as frankly surgical, and as soon as the patient exhibiting one of them is suitable for operation it should be performed without hesitancy. But the situation is reversed when certain other conditions are passed in review. Small pelvic calculi should have a reasonable opportunity to descend of their own accord, and ureteral calculi of reasonable size should never be regarded as primarily surgical; the alert urologic surgeon will always be careful to abandon conservatism in the presence of threatening complications, but in spite of these the immense majority of these stones can be removed by non-operative measures, as has been demonstrated repeatedly by others, and can be further demonstrated by the writer in his own series of cases. Minute calculi in the renal substance had best be left undisturbed; the damage to the kidney incident to their location and removal is usually much greater than the damage that will result from the calculi themselves. Sharp ureteral kinks and angulations, especially when associated with fascial bands or aberrant vessels, are often of great surgical significance; ureteral curves, commonly described as kinks, are usually compensatory, especially following the back pressure incident to pregnancy, are of little or no importance, and are not entitled to the operative consideration they are receiving in some quarters. Acute unilateral hematogenous in-

fections, the so-called Brewer's kidneys, were at one time subjected to prompt nephrectomy and more than once the same condition has shortly presented itself upon the remaining side—a pathetic picture; the writer long ago satisfied himself that these infections will usually yield to a conservative line of treatment, though very occasionally the threat of an overwhelming sepsis may make surgery imperative. Small hydronephroses can generally be controlled by ureteral dilatation and drainage. The tendency of many renal conditions to be bilateral either immediately or eventually should be an effective check to nephrectomy in such a condition as well as in the management of nephralgias and essential hematurias. If subjected to operation at all, the latter are best handled by decapsulation, with or without nephrotomy; otherwise, the patient, with one kidney gone, may return with the same condition in the other. Before some minor anomaly is adopted as justification for the removal of a kidney which is giving troublesome symptoms, it is essential that pyelographic data shall indicate conclusively that essentially the same condition does not exist, slumbering, on the other side. In several instances the writer has been compelled by such data to abandon a projected surgical procedure and resort to some less radical measure which, incidentally, has usually proven satisfactory, though probably not always completely curative from a symptomatic point of view.

It would be interesting to the urologist, perhaps tiresome to you, to continue this parallelism further. Sufficient has been said, however, to demonstrate the point of view leading to the exhibition of a few illustrative case reports which follow and which out of a considerable number have been selected as types. The writer is simply endeavoring again to add his voice to the group of those who are pleading for thoroughness in the diagnosis and reasonable conservatism in the therapeutics of urinary conditions. When surgery is indicated, it can then be done with a degree of brilliance exceeded in no other field of medicine; when lesser measures are found to suffice, one may, on the other hand, witness himself accomplishing a piece of reconstructive work peculiarly gratifying and well worth all the tax upon his patience and ingenuity that it has involved.

ILLUSTRATIVE CASES.

CASE I.—White male patient, 22 years of age, brought into the hospital in a critical condition, characterized by great prostration, fever of 104°, severe right abdominal pain, exquisite tenderness in the renal area, marked bladder irritability, and urine full of pus. There was no antecedent history of any significance. Catheter drainage of the affected kidney was at once instituted and when supplemented by milk injections and other measures gradually brought the patient through a stormy week into a condition which permitted him to get back to his home. For about two months he was apparently well and then suddenly went into another spell, with temperature of 105° and localizing signs as before, with the important exception that now they were transferred to the opposite side of his urinary tract. Since this time he has had several recurrences on the left side and also another on the right. The case is obviously one of recurrent alternating renal infection secondary to a distant focus, which appears to be the prostate gland. The details of his treatment, considerably obstructed by his own indifference, are of no particular interest in the present discussion and will be omitted.

Comment: When first seen the patient was critically ill. The acuteness of the onset of his trouble, its apparent limitation to one side, and the impressive local findings, all suggested the possibility of a unilateral hematogenous infection of the type which was once met by nephrectomy. Such a procedure would have needlessly sacrificed a kidney which subsequently returned to normal, and, more important still, would have left the patient in dire straits when, two months later, his other side became involved. In certain instances, as previously noted, acute renal infections will require active surgery, but these instances are now admittedly rare, instead of common as once supposed. General supportive measures, the stimulation of body resistance by milk injections, intravenous mercurochrome, or otherwise, a flood of water, and the judicious use of the ureteral catheter will save the vast majority of these kidneys.

CASE II.—White, female patient, 27 years of age, wife of a physician, entered the hospital with a temperature of 104°, general abdominal aching, tenderness over an easily palpable right kidney, burning frequent urination, marked pyuria, and a history of a similar attack 2½ years previously. Investigation disclosed bilateral renal infection, slight on the left, extensive on the right, with a right hydronephrosis, from which 75 c.c. of purulent urine was aspirated. Subsequent pyelography, after the acute stage had passed, confirmed these preliminary findings, exhibiting a normal pelvis on the left and a dilated, ill-defined sac on the right. The situation appeared discouraging, but in view of the patient's wish to avoid surgery if possible and also in view of the need of preliminary treatment in any event, this treatment was instituted with no preconceived idea as to where it would lead. In addition to the routine general measures, both ureters were dilated, both pelvises frequently irrigated, and the right pelvis drained with retention catheters which were kept in position for periods varying from a few hours to a week. In about 2½ months the patient had a practically negative urinalysis, she was free of all symptoms, the pelvis from which 75 c.c. had been aspirated would now hold less than 20 c.c. without discomfort, the pyelogram, though not normal, showed striking improvement, and the dye output in 15 minutes from the right kidney was 15% and from the left kidney 19%, the normal being 15%. By this

time, of course, all idea of radical surgery had been abandoned, certainly for the present.

Comment: It must be admitted that this case was on the border line. However, preliminary treatment seemed desirable, and in the course of this preparatory period it was demonstrated, as is not infrequently the case, that a kidney, apparently hopelessly crippled, will sometimes display an astonishing recuperative power, under patient and persistent care, making anything further unnecessary.

Incidentally, this case also illustrates one of the several reasons which might be advanced for the cystoscopic investigation of any renal infection that does not promptly respond to simple medical treatment. The patient was apparently suffering from an acute pyelitis which, according to some observers, should be treated without instrumentation. The load carried by the right kidney in this instance, however, could have been discovered and relieved in no other way.

CASE III.—White, male, 41 years of age, was brought for investigation of violent renal colic on the left side, followed by sudden relief, which led to the presumption that he had expelled a ureteral calculus into his bladder. Ten years previously he had been operated upon for appendicitis. At intervals since he had suffered considerable pain in his right side and occasionally had passed muddy urine. The explosive character of the present attack completely overshadowed the indefinite history relating to the opposite side, and hence it was with considerable astonishment that a preliminary X-ray plate was found to show nothing in the left side but a congregation of shadows, obviously calculi, in the region of the lower end of the right ureter. The cystoscope revealed no calculus in the bladder, but the edematous, congested, and ecchymotic left orifice indicated fairly clearly that a stone had passed and escaped through the urethra without the patient's knowledge. The left ureter was tightly contracted, but a small catheter was finally passed and brought away cloudy urine containing a sprinkling of pus cells. A catheter of standard size was easily passed on the right side, presumably to the pelvis; the urine from this side was clearer but contained somewhat more pus. Aspiration indicated slight retention on the left and large retention on the right. After an intravenous injection of phenolsulphonethylamine no trace of the dye appeared from the right side in 25 minutes, and but 3 per cent from the left side. A pyelogram disclosed a large hydronephrosis and hydro-ureter on the right where the catheter, instead of reaching the pelvis, was found coiled about seven calculi nested in the extreme lower end of the ureter.

With a destroyed kidney on one side and a collapsed kidney on the other, the outlook for this patient appeared very gloomy. His urea nitrogen was 102 mg., his total dye output in two hours but 9 per cent, and his blood-pressure was sharply elevated. A fatal uremia seemed possible at any moment. He was kept under the closest observation and treatment to determine the ability (if any) of the left kidney to recover its function. Slow but steady improvement resulted. At the end of four weeks the patient had undergone a transformation. The left ureter was now well open and the infection in this side had entirely disappeared; a left pyelogram was made and proved normal; dye appeared promptly and the elimination of 14 per cent in 15 minutes was practically normal for one kidney. The right side still showed no function whatsoever. After two more weeks of pre-operative observation the patient was brought back to the hospital and through combined anterior and posterior incisions

the right urinary tract was removed, with the exception of about 1½ inches of the vesical extremity of the ureter into which one of the seven calculi escaped and in which it still lies, probably of no clinical importance. The post-operative course of the patient was free of incident, and at no time was there the slightest threat of any uremic complications. Five days after operation his urea was 48 mg. and his dye output 80 per cent in two hours. Thirty days later his urea nitrogen was 20 mg. and his dye output in two hours 59 per cent.

Comment: In this case the destruction of the right kidney was so complete that the recovery of its usefulness under any circumstances was out of the question. With its stagnant and infected puddle of urine it constituted a serious menace to the patient and nephrectomy was clearly indicated. In the patient's condition, however, hurried operation would have been as certainly fatal as a primary prostatectomy in the presence of vesical retention and sharp renal depression. In fact, it appeared at first highly problematical if operation could ever be undertaken. However, the patient's response to treatment was admirable, so that, as a result of six weeks of preparation, a uremic individual who entered the hospital with two kidneys and a function of practically nothing finally left with one kidney and a function that was essentially normal.

CASE IV.—White, female, 32 years of age, entered in the midst of an attack of severe right renal pain which began two days previously and which was now accompanied by high fever, rapid pulse, frequent chills, and great general distress. Eight months before she had gone through a siege of pyelitis of pregnancy requiring catheter drainage, and was presumably having a recurrence of this infection. With a temperature of 104.2°, pulse 120, leucocytosis of 21,700 and 94 per cent polys, and exquisite tenderness over the right kidney anteriorly and posteriorly, the situation, however, appeared more serious. Cystoscopy was performed at once. Urine from the left side was negative; from the right side thick pus was aspirated with immediate relief of pain. Function in the right was reduced to a bare trace of dye in 15 minutes, while on the left 24 per cent appeared in the same period. X-ray defined a shadow in the right renal area not visible in plates made when she was at the hospital during her pregnancy. Subsequently pyelography definitely located this as a calculus in the lowest calyx and gave no evidence of extension of the infection into the kidney substance. Systematic cystoscopic and other treatment was instituted. The character of the pus from the right side and the almost total cessation of function seemed discouraging. The patient, however, as a result of catheter drainage, was almost immediately free of pain and fever, and within a short time her urine was rapidly clearing and the function of her right kidney had been built up to half a normal reading. Twelve days after admission she underwent operation. Previous nephropexy made delivery of the kidney quite difficult and pyelotomy in the presence of numerous adhesions would have required extensive dissection. The calculus, however, had been very precisely located and it was a relatively simple matter to remove it through a nephrotomy incision about 1½ inches in length directly over the lowest calyx. Today this kidney is apparently normal, functioning actively and free of infection.

Comment: Preliminary study and treatment here accomplished three important things: Converted a poor risk into a good one, substituted for nephrectomy a procedure which relieved the situation but saved a useful organ, and, finally, by precise loca-

tion of the calculus, relieved the operation of some serious technical difficulties.

CASE V.—White, female, age 28, came for constant pain in left side of lower abdomen, intermittent fever, and large amounts of pus in urine, varying strikingly in quantity. Two years previously she developed terrific renal infection in the course of pregnancy and became so desperately ill that abortion was induced as a life-saving measure. For a time her condition seemed almost hopeless, but she gradually cleared out of it and finally became relatively well. At that time infection was present on both sides and the right ureter and pelvis were markedly dilated.

Some months later she was quiescent so far as her right side was concerned, but had begun to develop some discomfort in her left side and was also presenting some complications not related to the urinary tract. In spite of frequent exhortation to undergo a further cystoscopic review, she neglected to do this and was then lost to sight until, after a long period, pain finally drove her into the hospital again. A series of cystoscopies now disclosed a very striking picture. The upper urinary tract was infected on both sides, but the condition was much exaggerated on the left. The right side presented a moderate hydronephrosis with dilatation of the pelvis and clubbing and flattening of the calyces. On the left side was an advanced hydronephrosis from which 16 ounces (500 c.c.) or one pint of retained urine was aspirated. No calculi were present and the left ureter was not dilated, the obstruction being apparently due to strictures in the lower and upper ends.

A serious problem now confronted us. Unquestionably a grossly infected hydronephrosis of this degree, is a frank surgical proposition, assuming that conditions are satisfactory with reference to the opposite side. But here the opposite side itself was infected and the seat of a small hydronephrosis. Furthermore, the left kidney, curiously enough, was still performing more than half a normal function. To remove it would throw the burden of this work upon the remaining organ, an event which might readily enough precipitate a crisis on that side. The possibility that the patient would return after a time with a hydronephrosis on the right as large as that removed from the left had to be constantly borne in mind when surgery was contemplated. The outlook seemed cheerless enough in any direction, but certainly there appeared much more to gain than to lose by conservatism for the time being. Systematic treatment, consisting essentially of frequent periods of catheter drainage, was instituted and continued for a long time. In spite of every effort, no permanent change for the better could be effected on the left side; the best that could be accomplished here, as had been anticipated, was the regular unloading of this huge pelvis, relieving the patient of its septic burden, while her general condition was built up and the opposite kidney was getting rid of its own embarrassment and developing a degree of compensatory function sufficient to stand the shock of assuming the entire excretory duty. Eventually a point was reached which appeared to represent the maximum of improvement, with a functional output on the right side of 35 per cent in 20 minutes. The left kidney was thereupon removed and it was interesting to observe the admirable manner in which its companion handled the situation. Two days after operation the dye elimination was 60 per cent. The post-operative course was smooth and the subsequent history to date has been excellent.

Stuart Circle Hospital.

REPORT OF A CASE OF PYLORIC OBSTRUCTION COMPLICATING PREGNANCY.*

By CHAS. W. DOUGHTIE, M. D., Norfolk, Va.

The seeming infrequency of pyloric obstruction as a complication in pregnancy and the many accompanying features of interest prompt me to report the case which follows:

Mrs. L. P. B., female, white, age thirty, married sixteen months, first presented herself at my office on February 18, 1929.

Her chief complaint at this time was (1) pain and tenderness in her pelvis; (2) a sense of pressure upon her bladder; (3) nervousness was a prominent symptom and she felt that she had been running a low grade fever.

Family history: Father died at fifty-eight of an intestinal obstruction. Mother and all brothers (three) and sisters (three) are living and well.

The past medical history disclosed the usual diseases of childhood, toxic goitre, and indigestion associated with heartburn. Hunger pains had been experienced, with remissions, over a period of four or more years.

The past surgical history consisted of a thyroidectomy, about two years previously, and a tonsillectomy.

The menstrual history, revealed that puberty began at thirteen and menstruation was of the twenty-eight day type. The duration was three or four days. The flow was moderate in amount and accompanied by only slight pain. The last menstruation began on the 3rd and lasted to the 6th of February, 1929.

She had been pregnant shortly following her marriage, which she aborted at about the sixth week. She was not curetted, because of a low grade infection and inasmuch as the bleeding cleared up.

General History: Appetite was poor and there was discomfort to a greater or less degree in her epigastrium; bowels were constipated.

Urinary symptoms, such as frequency, nocturia, urgency and bladder pressure were present.

The physical examination with only the positive findings follows: Weight 105 pounds, blood pressure 102/62. The teeth showed evidence of decay, and pyorrhea was present.

The neck showed a thyroidectomy scar.

The heart and lungs were negative.

*Read before the Norfolk County Medical Society, February 24, 1930.

The abdomen was tender upon pressure in the epigastrium near the costal arch; there was also tenderness in lower abdomen, particularly in the iliac fossa.

Pelvic examination showed a nulliparous introitus; the cervix was small and conical; the fundus uteri was small, retroverted and fairly fixed. The left tube was thickened and drooped towards the cul-de-sac, but the right broad ligament was clear so far as I was able to ascertain. The pelvis was exceedingly tender upon examination and manipulation.

A urinalysis of a catheterized specimen was reported to be hazy, acid in reaction, a specific gravity of 1012. There was a trace of albumin present. Microscopically it showed an occasional leucocyte, and 10 to 12 epithelial cells to a field.

She was sent to bed and 5 c.c. of Aolan were given intramuscularly every third day for five doses. After two weeks her acute pelvic symptoms had subsided. Long hot douches were then ordered twice a day.

She menstruated on March 5th and there was nothing unusual about the period.

On March 20th she came in complaining of the usual duodenal ulcer syndrome.

She was sent to bed and put on the Sippy diet with alkalies. On April 2nd the symptoms had not improved, and she complained that even the milk soured.

On April 15th, she had been to her dentist and her mouth appeared to be in fair condition. Her stomach symptoms had much abated. She had failed to menstruate when same was due, about April 2nd.

On May 4th she was vomiting a great deal and her stomach was very sour. She had lost some weight and appeared sick.

Her uterus was then slightly enlarged and there was very little tenderness in her pelvis. She was told that I believed her to be pregnant.

From this time until September 25th she was seen at frequent intervals and a most careful check was made. During this time her symptoms had improved, and she was moderately well, but never quite satisfactory. On the latter date she complained that she was vomiting quite a lot, that her vomitus contained blood and there was constant burning in her stomach.

She was again put on a rigid diet, with alkalies and belladonna and thus we fought along from day to day, trusting for a lucky break

which would give her a living baby. All kinds of combinations of diet were tried but none seemed to make her comfortable.

On November 6th she was acutely ill and she was rapidly becoming dehydrated. Her vomitus contained blood.

On November 7th she was admitted to the Norfolk Protestant Hospital.

Her hospital record is as follows: Upon admission her temperature was 97.8, pulse 108, respiration 20. Her chief complaints were nausea, profuse and persistent vomiting (vomitus bloody), loss of weight and strength. Pain in epigastrium of a grinding character. At this time her pregnancy had attained to about 240 days.

The following is the laboratory report:

Haemoglobin 82, erythrocytes 4,280,000, leucocytes 14,600, polymorphonuclears 80, N. P. N. 33.3, Wassermann negative. Her urine showed albumin and a few pus cells. Both the albumin and pus cells increased substantially within the following three days. There was a drop in her haemoglobin to 62 per cent, and the erythrocytes decreased to 3,303,000.

A Lenhartz diet with alkalies and belladonna gave no more relief and lavage of the stomach became more frequently necessary, but same afforded only slight and temporary relief. Her condition each day was growing rapidly worse and the picture was exceedingly unfavorable.

She was given glucose and saline solution freely. After consultation with some of my friends it was decided that the induction of labor was our best bet, so on the morning of November 11th, after a hypodermic of morphia sulphate grs. $\frac{1}{4}$ and atropin sulphate grs. $\frac{1}{150}$ she was removed to the obstetric wing.

A rectal examination revealed that the cervix was fairly well thinned out and the external os was of such size as would admit the tip of my little finger; the head could be induced to engage.

She was carefully prepared and when all was in readiness, after gentle dilatation with my fingers, a number 6 bag was introduced and filled to about three-quarters of its capacity; after which she was returned to her bed.

She was amply provided with glucose and saline, which was repeated at eight to twelve hour intervals.

On November 12th at one A. M. labor pains were recorded as recurring at two to four

minute intervals, and of fair quality, and she was complaining some of backache. At about seven o'clock the bag was expelled; the pains were more forceful and the membranes ruptured a few minutes later.

She had been carried along with gas and oxygen analgesia. At about eight, she was dropped into anesthesia and low forceps were applied. She was delivered of a normally developed premature male child, which weighed five pounds and nine ounces. The placenta was expelled intact, with the aid of a gentle manipulation. Its delivery was followed by the administration of one c.c. of pituitary extract.

The pre-delivery efforts to relieve and support the patient were continued. There was no relief from symptoms, so it was decided to prepare her for operation, by filling her up with saline and glucose, and by digitalization, to further fortify her circulation.

On November 14th (the second day following her delivery), after carefully washing out the stomach, the usual pre-operative hypodermic of morphia and atropin was given.

At 2:18 P. M., under ethylene and local anesthesia, the abdomen was opened. Upon opening the peritoneum, an enormously distended colon greeted us and instantly it rolled out in its entirety. It was distended to the size of a large inner tube (approximately five inches in diameter), thin and transparent. It was finally replaced and packed back as well as was possible, but it was constantly an operative obstacle, the worse when the size of the patient was considered, together with her poor condition.

A hurried investigation of the pyloric region only gave the information that the pylorus was placed high under the liver and well out of sight. The duodenum was adherent, so far as I could ascertain, to everything thereabouts. No further attempt was made to do anything to the pylorus. A no loop gastrojejunostomy was done with great difficulty. The patient was infused with 2,000 c.c. of normal saline during the operation and she left the table at 3:40 with a pulse of 118.

A colon tube was inserted, which was followed by a hypodermic of 1 c.c. surgical pituitary extract with no apparent effect. This was repeated on three occasions,—but there was no relief of the distention.

Digifoline 1 c.c. every four hours was given, till the pulse was below 100 per minute. Hic-

coughs, which lasted several days, was a distressing complication. Phlegm and mucus were freely expectorated for several days.

There was very slight nausea but no vomiting. The saline and glucose were largely relied upon. The saline was given by bowel and under the pectorals while the glucose was given intravenously and at times with saline under the pectorals.

On second post-operative day the pulse was ranging from 88 to 96, intermitting, but of fair volume. A rectal tube was left in, and there seemed to be less distention. On the third post-operative day, the intermittency was thought to be due to over digitalization, so the digitalis was discontinued.

Strychnine sulphate grs. 1/60 was ordered every four hours, hoping thereby to contract down the dilated colon. Cibalgine was substituted instead of morphine for pain.

A warm oil and glycerine enema (each 3 ozs.) was given, which was slightly effectual. The distention was much less after it.

A gastric lavage was given (the first and only one following the operation).

On the fourth post-operative day, the abdomen was flat and she was taking very limited quantities of liquids quite well.

Her urine showed albumin, casts, acetone and diacetic acid; the latter two were evidently the result of a misunderstanding on the part of the House Surgeon, who omitted the glucose on the preceding day. Glucose was promptly given and the condition cleared up.

On the fifth post-operative day she was having small dark stools.

On the sixth post-operative day, improvement was marked. She was still having some hiccoughs.

On the seventh post-operative day convalescence seemed well established and continued so smoothly that I was again able to sleep.

The sutures were removed on the twelfth post-operative day. The incision was clean and well healed.

She was discharged from the hospital on November 29, 1929, which was the fourteenth post-operative day.

She has had no nausea, burning, or pain since her discharge, and is taking a liberal but carefully regulated diet.

The above is only a brief of the case, but I trust it will lend courage to those of us who may face a similar situation in the future.

THE EARLY DIAGNOSIS OF WHOOPING COUGH.*

By W. AMBROSE MCGEE, M. D., Richmond, Va.

Few diseases have had so many different plans of treatment used with so great a lack of uniformity in results as whooping cough.¹ That state of affairs is probably due to such factors as failure to correctly diagnose the disease in its early stages, lack of any generally accepted successful method of treatment, and the scant attention parents oftentimes pay to the disturbance. Little attention is paid by the public and public health bureaus to the appalling number of yearly deaths from whooping cough.² If ten thousand children died any year from infantile paralysis, we would undoubtedly be panic-stricken; but let that number of deaths occur from whooping cough and little concern is aroused. If ever the golden rule is to be used, there is no better opportunity than is presented by whooping cough. Unfortunately, parents are often ignorant of the facts concerning the spread of the disease, and even those who know are often very careless about keeping their children away from others. This condition is undoubtedly due in part to the lack of attention paid the disease by health authorities, probably because they recognize that a diagnosis during the first two weeks, the most contagious period, is often very difficult to make.

In epidemics of such diseases as influenza or poliomyelitis, public health authorities frequently advise preventive measures and the steps to be taken to diagnose the disease early. Such information is not usually given for whooping cough, perhaps because health bureaus generally feel that it is impossible to say definitely whether or not a child has the disease before the onset of the whoop.

In the past few years a great deal of experimentation³ has been done on the isolation of the causative bacillus of whooping cough, and it is now accepted in France⁴ that a positive diagnosis can be made several days prior to the whoop by isolation of the whooping cough or Bordet-Gengou bacillus. The difficulty in culturing the bacillus has undoubtedly accounted for the failure of State health boards to adopt that method. Then there are some physicians who feel that germ isolation in whooping cough is not out of the experi-

mental stage. The work of Lawson and Mueller⁵ and Sauer and Hambrecht⁶ have shown that the germ could be isolated by having the child cough into a Petri dish containing a special medium.

TABLE I
VALUE OF WHITE AND DIFFERENTIAL BLOOD COUNTS IN SUSPECTED CASES OF WHOOPING COUGH
A.—POSITIVE DIAGNOSIS WITHOUT WHOOP
(WHOOPING SUBSEQUENTLY OCCURRED)

PATIENTS	SEX	AGE	DURATION OF COUGH (DAYS)	WHITE CELLS	LYMPHOCYTES	EOSINOPHILES
J. R.	F	10 mos.	21	22,000	68%	1%
D. A. M. .	F	2 yrs.	14-21	16,000	70	0
B. P. B. .	M	8 yrs.	21-28	15,400	69	2
E. C. F. .	M	3½ yrs.	14	30,200	78	2
H. J.	M	1 yr.	21	21,500	77	0
D. M.	F	4 yrs.	14	19,400	74	1
L. W. M. .	M	3½ yrs.	21	14,000	72	3
E. M. McC	F	10 mos.	14	21,000	85	2
R. H. B. .	M	4 yrs.	10	12,000	75	1
R. P.	M	13 mos.	10	14,500	73	1
A. C.	F	15 mos.	17	46,000	87	1
P. E.	F	13 mos.	13	18,000	83	1
M. M.	F	8 yrs.	14	26,000	49	17
G. D. M. .	M	11 mos.	9	32,000	70	4
J. G. A. .	M	2 yrs.	14	25,600	77	1
J. C.	F	6 mos.	12	14,000	60	1
J. H. M. .	M	14 mos.	21	40,200	88	0
A. T. P. .	F	4½ yrs.	10-12	28,000	65	2
R. H. P. .	M	2 yrs.	7	26,000	67	1
J. T. S. .	F	22 mos.	14	26,200	60	0
A. B. B. .	F	1 yr.	10	19,200	80	0
B. M.	M	6 yrs.	14	18,900	56	2
C. S.	F	15 mos.	14	24,640	64	1
B. R.	F	4 yrs.	14	22,500	63	4
D. W.	M	2 yrs.	10-12	19,600	61	1
E. L. P. .	M	5 yrs.	14	16,400	52	2
J. E. G. .	F	4 yrs.	7	15,600	56	5
L. B.	F	5 mos.	14	20,000	66	2
D. M. W. .	F	7 yrs.	21	14,500	78	1
M. R.	F	3 yrs.	14	12,000	71	1
M. B. B. .	F	8 mos.	12-14	19,600	79	3
B. T. J. .	M	6½ yrs.	10-12	24,600	63	1
P. T. W. .	F	5 yrs.	14	16,200	75	5
A. D. W. .	F	2 yrs.	10	11,500	70	0
H. W. M. .	M	19 mos.	8	12,000	61	3
A. M.	M	21 mos.	10-12	12,800	63	10
J. A. P. .	M	4 yrs.	11	12,600	53	7
B. M. N. .	M	5 yrs.	12	16,800	48	3
T. S. T. .	M	6 yrs.	14	19,800	69	0
F. B. T. .	M	2½ yrs.	10	10,000	68	0
A. C.	F	21 mos.	14	17,860	77	5
A. W. W. .	F	8½ yrs.	12	25,000	56	1
F. N.	F	10 yrs.	14	30,000	74	1
R. D.	M	1 yr.	12	17,000	74	2
H. C. S. .	M	4 yrs.	12	16,400	77	2
V. C. S. .	F	18 mos.	10	16,400	53	2

The director of the laboratory of the Virginia State Board of Health had agreed to cooperate with the speaker in attempting to

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make an early diagnosis of whooping cough by cultural method, but, unfortunately, the present poliomyelitis outbreak interfered by taking all of its available time and help; and as yet no work has been done along that line. Perhaps the opportunity will soon come and the State laboratory will be able to help in making, not only an early diagnosis, but in determining the length of quarantine, as is done in France.⁴

Three other means of aiding in an early diagnosis of whooping cough are the complement fixation⁷ and agglutination tests⁸ and white and differential blood counts. The two former methods are more complex, are not

blood count is, however, a most simple and reliable test in helping to make a diagnosis of whooping cough, provided, of course, the symptoms and signs of the disease are carefully taken into consideration. Meunier⁹ was the first to call attention to the value of that test.

A positive diagnosis of whooping cough was made from the character of the cough, presence of an epidemic or history of exposure, the usual absence of any marked signs of bronchitis, laryngitis and post-nasal discharge plus a leukocytosis with an absolute and relative increase in the lymphocytes. The cough, considered suspicious, was an afebrile one, paroxysmal and spasmodic in nature, which increased in severity and was worse at night, and which failed to respond to usual treatment.

TABLE I
VALUE OF WHITE AND DIFFERENTIAL BLOOD
COUNTS IN SUSPECTED CASES OF WHOOPING COUGH
B.—POSITIVE DIAGNOSIS WITHOUT WHOOP
(WHOOPING FAILED TO OCCUR SUBSEQUENTLY)

PATIENTS	SEX	AGE	DURATION OF COUGH (DAYS)	WHITE CELLS	LYMPHOCYTES	EOSINOPHILES
N. B.	F	4 yrs.	14	14,600	64%	4%
E. C.	F	4 yrs.	14	21,600	72	6
E. M.	M	7½ yrs.	14	14,200	60	4
C. C.	M	2½ yrs.	14	11,000	70	7
G. W.	M	5 yrs.	14	18,700	87	1
E. E.	M	4 yrs.	14	19,800	56	11
W. H.	M	4 yrs.	14	18,060	59	13
P. L.	M	3½ yrs.	14	14,860	59	6
H. M. R. .	F	8 mos.	14	14,200	61	3
V. P.	F	3 yrs.	14	16,000	68	2
W. M. M. .	M	3 yrs.	14	15,400	68	4
L. M. M. .	M	3 yrs.	14	18,360	80	2

TABLE I
VALUE OF WHITE AND DIFFERENTIAL BLOOD
COUNTS IN SUSPECTED CASES OF WHOOPING COUGH
C.—POSITIVE DIAGNOSIS WITH WHOOP

PATIENTS	SEX	AGE	Duration of Cough (Days)		WHITE CELLS	LYMPHOCYTES	EOSINOPHILES
			Cough	Whoop			
J. D. B. . .	M	3 yrs.	21-28	1-2	17,200	65%	3%
J. M. W. .	F	7 mos.	21	4	15,000	58	2
H. J. M. .	M	2½ yrs.	21	1-2	14,200	65	0
E. S.	F	6 yrs.	21	2-3	18,400	72	0
A. E. S. .	F	4 yrs.	35	7	18,000	75	2
W. C. M. .	M	7 mos.	28	14	24,000	76	0

used to any large extent, and are not so generally accepted. The white and differential

TABLE I
VALUE OF WHITE AND DIFFERENTIAL BLOOD
COUNTS IN SUSPECTED CASES OF WHOOPING COUGH
D.—NEGATIVE CASES WITHOUT WHOOP
(WHOOPING FAILED TO OCCUR SUBSEQUENTLY)

PATIENTS	SEX	AGE	DURATION OF COUGH (DAYS)	WHITE CELLS	LYMPHOCYTES	EOSINOPHILES
R. W.	M	5 yrs.	14-21	8,800	42%	2%
D. W.	M	4 yrs.	14-21	9,600	44	2
E. C.	F	11 mos.	14	12,400	43	4
M. K.	F	2 yrs.	14	10,000	38	0
J. C.	M	14 mos.	21	6,400	44	4
V. P.	F	18 mos.	14-21	10,200	48	5
N. M. D. .	F	5 yrs.	28	8,200	40	1
B. F.	F	6 yrs.	7-14	9,000	41	2
G. F.	F	2 yrs.	7-12	7,000	55	0
K. M.	F	6½ yrs.	35-42	7,600	57	4
K. M.	F	7 yrs.	14-21	6,600	56	2
F. W.	M	4 yrs.	14	13,600	43	4
M. S.	F	8½ yrs.	14	10,800	61	1
D. A. N. .	F	3½ yrs.	21	10,200	79	1

White and differential blood counts were usually made after a child had had a suspicious cough lasting from seven to ten days. In fourteen such cases a negative diagnosis was made after a cough lasting from ten to twenty-one days. In no afebrile disease with cough is there so great a leukocytosis with such a high percentage of lymphocytes. The leukocyte count in this series of sixty-four positive cases varied from 10,000 to 46,000, with an average of 19,273 white cells, while 50 to 90 per cent of lymphocytes were noted

with an average of 68.2 per cent. Differential counts were usually made in a vertical direction in as much as one so often finds a greater percentage of polymorphonuclear leukocytes at the edge of a blood smear and

more lymphocytes in between. Recently, Gyl-lensward¹⁰ referred to this arrangement of cells in blood smears and advocated such a procedure as was just mentioned to get a truer and more representative differential blood count.

In those cases in which an early diagnosis was made, the average patient had been coughing thirteen days, whereas, when diagnosis was deferred till the onset of the whoop, the average period of time was 25.5 days.

Theoretically one would expect better results where treatment was begun early. Such proved to be true in the cases of this series, certainly from the standpoint of symptomatic relief, with the exception of those cases in which rectal ether was used. The entire course of the disease was twenty-six and six-tenths days in cases in which blood counts were made, and forty-five and nine-tenths in those cases not diagnosed and treated until onset of the whoop. It is of some possible interest to note that in those cases diagnosed early and in which rectal ether was given early, there was a greater re-

TABLE 2
EFFECT OF EARLY AND LATE DIAGNOSIS ON THE LENGTH
OF THE COURSE OF WHOOPING COUGH

TREATMENT	EARLY DIAGNOSIS			LATE DIAGNOSIS		
	CASES	IMPROVED	PRACTICALLY WELL	CASES	IMPROVED	PRACTICALLY WELL
		DAYS	DAYS		DAYS	DAYS
Ether.....	22	4.0	10.4	36	4.0	10.5
Ether and Vaccine...	13	4.1	12.1	11	4.6	12.9
Ether and Ephedrin.	7	3.1	10.9	8	3.4	12.6
Eth., Ephed. and Vac.	6	4.6	12.1	3	4.3	16.3
Vaccine.....	7	11.8	20.0	8	21.0	35.0
Ephedrin.....	1	5.0	8.0	11	17.0	26.0
Vaccine and Ephedrin	4	12.0	26.5	0	..	..
Cough Medicines*...	1	21.0	35.0	12	14.0	28.0
No Treatment*.....	0	....	....	6	18.0	39.0

*Approximate length of time.

TABLE 3
EFFECT OF TREATMENT ON WHITE AND DIFFERENTIAL BLOOD COUNTS

PATIENTS	AGE	FIRST BLOOD COUNT			INTER- VAL DAYS	SECOND BLOOD COUNT			TREATMENT
		TOTAL	LYMPH. %	EOSIN. %		TOTAL	LYMPH. %	EOSIN. %	
J. R.....	20 mos.	22,000	68	1	7	11,000	76	2	Ether
D. M.....	4 yrs.	19,400	74	1	8	15,200	70	1	Ether
L. W. M.....	4 yrs.	14,000	72	3	10	11,200	67	2	Ether
R. P.....	13 mos.	14,500	73	1	10	10,400	70	1	Ether
A. C.....	15 mos.	46,000	87	1	16	24,000	80	1	Ether
H. C. S.....	4 yrs.	16,400	75	3	10	17,000	71	2	Ether
J. G. A.....	2 yrs.	25,600	77	1	17	12,860	65	0	Ether and Vaccine
J. H. M.....	14 mos.	40,200	88	0	16	24,800	80	2	Ether and Vaccine
A. T. P.....	5 yrs.	28,000	65	2	4	12,800	63	1	Ether and Vaccine
R. H. P.....	2 yrs.	26,000	67	1	6	18,400	66	2	Ether and Vaccine
L. M. M.....	4 yrs.	18,360	80	2	21	8,900	54	4	Ether and Vaccine
B. M.....	6 yrs.	18,900	56	2	21	9,700	50	2	Ether and Vaccine
C. S.....	15 mos.	24,640	64	1	21	18,000	61	0	Ether and Vaccine
N. B.....	4 yrs.	14,600	64	4	21	9,000	67	3	Ether and Vaccine
B. R.....	4 yrs.	22,500	63	4	21	14,200	56	2	Ether and Vaccine
D. W.....	2 yrs.	19,600	61	1	7	14,600	61	1	Ether and Ephedrin
E. L. P.....	5 yrs.	16,400	52	2	10	12,800	54	2	Ether and Ephedrin
M. B. B.....	8 mos.	19,600	79	3	10	12,400	70	2	Ether and Ephedrin
P. T. W.....	5 yrs.	16,200	75	5	10	12,600	70	4	Eth., Eph., and Vac.
A. D. W.....	2 yrs.	11,500	70	0	10	10,800	69	1	Eth., Eph., and Vac.
B. M. N.....	5 yrs.	19,000	66	1	11	11,200	56	2	Vaccine
T. S. T.....	6 yrs.	19,800	69	0	32	8,200	36	2	Vaccine
E. C.....	4 yrs.	21,600	72	6	21	17,600	64	4	Vaccine
E. M.....	8 yrs.	14,200	60	4	21	12,200	52	8	Vaccine
C. C.....	2 yrs.	11,000	70	7	21	12,000	60	5	Vaccine
G. W.....	5 yrs.	18,700	87	1	21	12,000	64	6	Vaccine
J. E.....	8 yrs.	11,000	47	2	5	10,800	57	2	Ephedrin
E. E.....	4 yrs.	19,800	56	1	21	10,000	45	5	Vaccine and Ephedrin
A. C.....	21 mos.	17,860	77	5	21	16,700	73	1	Vaccine and Ephedrin
W. H.....	4 yrs.	18,060	59	13	21	16,000	47	19	Vaccine and Ephedrin
P. L.....	4 yrs.	14,860	59	6	21	16,000	78	3	Vaccine and Ephedrin

duction of white blood cells per day, as was shown by second leukocyte counts. Practically no difference could be detected in the percentage of lymphocytes regardless of treatment before three to four weeks.

TABLE 4
RECAPITULATION OF THE AVERAGE EFFECT OF TREATMENT
ON WHITE AND DIFFERENTIAL BLOOD COUNTS

TREATMENT	No. OF CASES	AVERAGE DECREASE		
		LEUKOCYTES		LYMPH- OCYTES PER CASE
		PER CASE	PER DAY	
Ether.....	6	1041	104	0.5
Ether and Vaccine.....	9	1088	68	1.5
Ether and Ephedrin....	3	1743	194	1.0
Eth., Eph., and Vac....	2	1075	107	1.5
Vaccine.....	6	864	41	1.7
Ephedrin.....	1	200	40	...
Ephedrin and Vaccine..	4	755	36	0.3

None of the fourteen cases diagnosed as negative from blood counts and subsequently watched for two to three weeks developed a whoop. Conversely, all but fourteen of the series of cases diagnosed as whooping cough

subsequent to the blood count developed typical whooping cough. Occasionally one sees doubtful cases of whooping cough which fail to whoop at any time. When a white and differential blood count reveal a leukocytosis with a very high lymphocyte count plus typical symptoms and signs of suspected cases of whooping cough, one is justified in making a positive diagnosis, especially where there is evidence of communicability.¹¹ This is also true with the isolation of the Bordet-Gengou bacillus.¹¹ Such cases of whooping cough without whoop are most apt to be seen in institutions. The fourteen cases in this series diagnosed as whooping cough were institutional children.

Besides aiding in making an early diagnosis, the white and differential counts may give some prognostic information. The leukocyte count was considered as evidence of the resistance of the patient, while the lymphocyte percentage was a means of judging the severity of the disease. In this small series of cases lymphocyte percentages of sixty to seventy were usually associated with milder cases than were found with seventy to eighty per cent lymphocytes, while with a lymphocyte per-

TABLE 5
RESULTS IN POSITIVE CASES DIAGNOSED EARLY WITH THE AID OF WHITE AND DIFFERENTIAL BLOOD
COUNTS AND LATE BY THE WHOOP

TREATMENT	EARLY DIAGNOSIS				LATE DIAGNOSIS			
	EXCEL.	GOOD	FAIR	POOR	EXCEL.	GOOD	FAIR	POOR
Ether.....	10	10	1	1	12	19	5	0
Ephedrin.....	0	1	0	0	0	2	0	7
Vaccine.....	0	1	6	0	0	0	0	8
Ether and Ephedrin....	3	3	1	0	1	4	3	0
Ether and Vaccine.....	1	10	2	0	2	5	1	1
Eth., Eph. and Vaccine...	3	1	2	0	0	2	1	0
Ephedrin and Vaccine....	0	0	2	2	0	0	0	0
Cough Medicines.....	0	0	0	1	0	0	0	11
No Treatment.....	0	0	0	0	0	0	0	7
Total Cases.....	17	26	14	4	15	32	9	34
PERCENTAGE RESULTS OF ABOVE CASES								
Ether.....	45.4	41.4	4.6	4.6	34.3	54.3	11.4	0.0
Ephedrin.....	0.0	100.0	0.0	0.0	0.0	22.2	0.0	77.8
Vaccine.....	0.0	14.3	85.7	0.0	0.0	0.0	0.0	100.0
Ether and Ephedrin....	42.8	42.8	14.4	0.0	12.5	50.0	37.5	0.0
Ether and Vaccine.....	7.7	76.9	15.4	0.0	22.2	55.6	11.1	11.1
Eth., Eph. and Vaccine...	50.0	16.6	33.4	0.0	0.0	66.6	33.4	0.0
Ephedrin and Vaccine....	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0
Cough Medicines.....	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
No Treatment.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Total Cases.....	27.8	42.7	22.9	6.7	16.7	35.5	10.0	37.8

centage of eighty to ninety the patients generally had very virulent cases of whooping cough.

In a comparison of results obtained in cases diagnosed and treated early and those seen late, it was seen that the percentage results were in favor of early diagnosis regardless of the method of treatment. Likewise it was noted that improvement was obtained earlier in the early diagnosed cases, except when rectal ether was employed, the results then being equal.

By means of a simple white and differential blood count it is fairly easy to make a positive diagnosis of whooping cough provided the symptoms and signs of the suspicious case are duly considered. Not only can we expect better results and an earlier improvement where an early diagnosis is made, but such a procedure will eventually result in fewer cases of whooping cough, as children with suspicious coughs will be isolated and quarantined sooner. From a public health standpoint, that factor alone is well worth considering. An additional factor in early diagnosis is that the blood examination may possibly serve as a sort of prognostic agent.

In the near future it seems reasonable to hope for bacteriological aid in seeking an early diagnosis of one of our most fatal contagious diseases. With both the cultural method and blood counts as aids in definitely arriving at an early diagnosis, one will have little excuse for waiting for the whoop before positively deciding whether or not the child in question has the disease.

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DISCUSSION.

DR. LAWRENCE T. ROYSTER, University: It seems a very remarkable thing to all physicians that of all the diseases of childhood the dysentery and diarrheal group and pertussis have received the least attention from boards of health, comparatively speaking. Dysentery and diarrheal infections are the cause of more deaths than all other causes combined, and whooping cough causes more deaths than all the other infectious diseases. As Dr. McGee pointed out, we pay no attention to the large number of deaths every year from whooping cough, while we go into frenzy over infantile paralysis.

In the controlling of the paroxysms, a very important feature of the treatment, ether by rectal administration may offer us some promise. I must say that I have never seen the slightest bit of evidence that vaccine as a therapeutic measure in pertussis has ever done the slightest bit of good, and personally I feel that it is of practically no value as a preventive agent.

We do not know how long the infectious stage of pertussis lasts. The disease is probably in its most infectious stage before we know it is pertussis, as a rule. The cause of the paroxysm, as has been brought out in the past, is the damming up of masses of the dead bacilli between the cilia lining the upper part of the respiratory tract. That is an important point, because it is entirely likely that the paroxysms come when most of the bacilli are dead, and therefore the child has done most of the harm it can do before it is quarantined.

I am a little bit skeptical about the blood count. I think it is worth trying, and I hope Dr. McGee will go on and try, but he neglected to tell us the ages of the patients in this series, and we know the great tendency in early life of any infection to cause a lymphocytosis in the child rather than a leukocytosis. Also, we know the actual and relative increase in mononuclear cells is greater in the child.

I do not mean to blame the health authorities altogether, because they have not known what to do, any more than we have. But with the first suspicion of any cough, coming on at night rather than during the day, that patient should be put under quarantine, and when I say quarantine I mean the strictest possible.

In closing, I will say we are all members of some board of health or should consider ourselves such. The physician who does not emphasize the prevention of the spreading of disease as strongly as he does its cure, is not a physician in the strictest sense, and, being members of some board of health, we all ought to preach the gospel of prevention of disease. Not until the medical profes-

sion recognizes itself in the position it ought to occupy, as the greatest allies of the board of health in preventive medicine, not until then shall we become physicians in the true modern sense of the term.

Dr. McGEE, closing the discussion: I wish to thank Dr. Royster for discussing my paper. I agree with him as to the value of pertussis vaccine. In the few cases in which I have used pertussis vaccines, I have felt the patient received no great value from them, certainly no outstanding or persistent results

I did not consider the blood count unless the signs and symptoms were very suggestive of whooping cough.

In reference to quarantine, I think something ought to be done; I feel that with ten thousand or more deaths each year we should quarantine more frequently than we do. Perhaps a red or green arm band might be of service.

I think the State Board of Health should attempt to isolate the Bordet-Gengou bacillus; it would not be very expensive, and certainly nothing would be lost by the attempt.

TREE POLLENOSIS.

By HARRY S. BERNTON, M. D., Washington, D. C.
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The early or spring type of hay-fever, caused by the pollens of trees, has hitherto received scant attention. It is possible that this condition has not been fully recognized because of its occurrence at a time of year when ordinary "colds" are so prevalent.

Walker,¹ in his monograph on "Frequent Causes and the Treatment of Seasonal Hay-Fever," reports to have observed twelve patients sensitive to tree pollens. After a brief discussion of the subject, he concludes: "Since the season of pollination of the individual trees continues only from a few days to two weeks at the most, it does not seem essential that treatment be given." More recently, Duke² in his textbook has made the following statement: "Finally, the trees with their relatively short season and the comparative scarcity of any single variety were responsible for very few cases. In fact, we did not observe a sufficient number of tree cases to permit the drawing up of substantial statistics."

My experience with tree pollenosis in the District of Columbia has proven more extensive. The beauty of Washington, the National Capital, is enhanced by its tree-lined streets. It has been estimated that 106,565 trees line 500 miles of street-curbing. This number is exclusive of the trees in private yards and alleys. Obviously, there results an unusual concentration of trees amidst a dense population within a limited area. Moreover, the botany of the District of Columbia resembles that of the States, east of and including the Mississippi

Valley. In addition, closely related species of trees flourish throughout the remaining sections of the country. It is fair to assume, therefore, that the hay-fever findings in the District of Columbia reflect the conditions of at least one-third of the area of the United States.

Table I indicates that thirty-five or 4.42 per cent out of a total of 791 hay-fever patients

TABLE I
DISTRIBUTION OF TYPES OF HAY-FEVER IN A SERIES OF
791 PATIENTS

Type	No. of Patients	Percentage
Autumnal—due to the pollen of the Ragweeds -----	554	70.03
Vernal—due to the pollen of the Grasses, or Plantain -----	106	13.40
Spring—due to the pollen of Trees -----	35	4.42
<i>Combined Types</i>		
Vernal and Autumnal -----	80	10.11
Spring and Autumnal -----	10	1.26
Spring and Vernal -----	3	0.37
Spring, Vernal and Autumnal--	3	0.37
Total-----	791	

are sensitive solely to the pollen of trees, and that sixteen patients exhibit an additional sensitiveness to the pollen of the grasses or of the ragweed or to both. In summary, fifty-one patients or 6.44 per cent are affected by the pollen of trees.

Table II contains the list of tree pollens responsible for clinical cases of hay-fever in the order of their numerical importance. The oaks give rise to twenty-three cases of pollenosis or 45 per cent of the total number. The incidence of oak cases commands attention. Balyeat,³ in his discussion of the relationship

TABLE II
LIST OF TREE POLLENS IN ORDER OF THEIR IMPORTANCE WITH NUMBER OF CLINICAL HAY
FEVER CASES.

Pollen	No. of Cases	Percentage
Oak -----	23	45.09
Hickory -----	7	13.72
Sycamore -----	7	13.72
Paper Mulberry -----	3	5.88
Birch -----	3	5.88
Maple -----	3	5.88
Elm -----	1	1.96
Poplar -----	1	1.96
Black Walnut -----	1	1.96
Ash -----	1	1.96
Box Elder -----	1	1.96
Total-----	51	

of the oak to hay-fever, states: ". . . the period over which it pollinates is short so

that it is not one of the chief causes of hay-fever or asthma." The paper mulberry, birch, and maple have each three cases or 5.8 per cent sensitive to their respective pollens; whereas, only one case has been encountered due to the pollen of each of the following trees:—the elm, poplar, black walnut, ash, and box elder.

The sex and age incidence among the fifty-one patients of spring hay-fever present no difference from the other types of the disease. The male patients number twenty-nine and exceed the female by seven. All age groups are represented. The youngest patient is a boy of five in whom sensitiveness to the maple appeared at the age of four years. The oldest patient is a man of sixty-five who developed sensitiveness to the oak pollen at the age of sixty. It is noteworthy that the seven patients who are affected by the pollen of the hickory are males; whereas, six of the seven patients affected by the sycamore pollen are females.

The authors, previously quoted, convey the impression that the period of pollination of trees is short and that the period of symptoms is accordingly much shorter than obtains in the vernal and autumnal form of the disease. The trees may be readily classified into two groups:—the early bloomers and the late bloomers. In the District of Columbia, the alder, hazelnut, elm, maple, and poplar constitute the group which shed pollen in February and March. Nearly all the remaining wind-pollinated trees begin to bloom in early or mid-April and continue to do so until the end of May. In fact, there is an over-lapping of the spring and vernal season; for towards the end of April, *poa annua*, one of the early grasses, begins to shed its pollen and excite symptoms of distress in the very sensitive vernal cases. Attention is directed to field studies which have appeared in an earlier publication.⁵

The average duration of symptoms in spring hay-fever is one month. In some cases the symptoms may continue for six weeks. The season may extend over a period of eight weeks in highly sensitive individuals. It is obvious that climatic conditions profoundly influence the pollination of all plants. The terms, "early spring" and "late spring," denote an early or delayed advent of conditions favoring the blooming and development of plant life. It must not be supposed, however, that

all trees of a given species pollinate at the same time. There is a difference in time of pollination not only between members of the same family, but also members of the same species. Thus, trees on city streets bloom earlier than those in the country because of the heat retained by the pavements. The same holds true of trees situated on the sunny side of the street as contrasted with those on the shady side. I have noted that the oaks on my street with southern exposure bloom two weeks earlier than those with northern exposure. For similar reasons, the catkins situated on the tree-tops will mature before those on the lower branches. As a result, susceptible individuals are subjected to a series of successive bombardments with pollen granules, at first from trees on city streets, then from trees in the suburbs, and finally from trees in open country and woodland.

The period during which tree pollens are capable of causing symptoms of hay-fever has been underestimated. Of course, there are natural agencies which tend to destroy the pollen grains, either in mature or immature form. Heavy rains will clear the atmosphere of ripened granules and promote their decomposition. Unheralded frost or snow will not only mar the beauty of springtime but also destroy partially developed blooms.

The symptoms of spring hay-fever are identical with those of the later varieties. They are referable to the nose, throat, eyes, ears, and skin. Paroxysmal sneezing, stuffiness of nose, profuse coryza, and lachrimation are distressing but not distinguishing symptoms. The itching of the mucous membranes which are most exposed and most accessible to environmental agents is, however, of diagnostic importance. Thus, the itching of eyes, of nose, of roof of mouth, of back of throat, of ear canals, and of scalp is evidence of irritation by a foreign body.

Asthma, the most dreaded complication, has made its appearance in 50 per cent of the spring hay-fever patients. In a few individuals, the intensity of the eye-symptoms has masked the diagnosis of pollenosis. A student, aged seventeen, reports swelling of eyelids accompanied with sensitiveness to light, lachrimation and a muco-purulent discharge, as the initial symptoms of his hay-fever due to the pollen of the hickory. One other patient who is sensitive to the pollen of the paper mulberry has her vision impaired because of conjunc-

tival swelling; in addition, she suffers during the season from an irritable urinary bladder. Two patients, in my series, have shown allergic skin manifestations during the period of symptoms. One patient, with sensitiveness to the pollen of the maple, develops lesions resembling psoriasis which disappear with the cessation of his hay-fever. He also presents the rare complication of intestinal bleeding towards the end of the season. The other patient, a boy of sixteen, has had hay-fever and asthma for thirteen years. His symptoms are ushered in each spring by the pollination of the oaks. A weeping dermatitis, involving the folds of skin of the flexor side of the elbows, of the groins and of the chin extending down on to the neck, has tended to make him "perfectly miserable."

It is quite likely that spring hay-fever cases may escape correct diagnosis because their symptoms suggest the "common cold." The early type of hay-fever occurs at a time of year when with the changing of seasons respiratory infections usually prevail. The itching of mucous membrane is especially characteristic of pollenosis. It helps to distinguish the disease from the ordinary "head cold" or "grip." The average hay-fever subject can readily differentiate between the sneezing of his affliction and the sneezing of infection by the presence or absence of itching.

The diagnosis of hay-fever is suggested by the seasonal occurrence of symptoms and is confirmed by cutaneous tests with pollen. In twenty-three or 45 per cent of the patients, skin tests readily revealed the offending pollen. Thus, a male, aged forty, has been a victim of hay-fever for four years. His season extended from the middle of April until the middle of May. A series of cutaneous tests was performed with twenty-one tree pollens, of which sycamore pollen was the only one to give the characteristic positive reaction. A single positive skin reaction, similar to the case illustrated, simplifies the matter of diagnosis and of treatment. In 53 per cent of the cases, however, multiple positive skin reactions conspired to make the diagnosis difficult. A multiplicity of positive skin tests by no means denotes that the mucous membranes are sensitive to those pollens which provoke skin reactions. Nor does this fact justify the administration of extracts of all the pollens which yield positive skin reaction.

The significance of "group reaction" in

routine testing should be borne in mind. It indicates that the pollens of closely allied families of plants have in common a characteristic structural arrangement of the protein molecule. It is the latter which give rise to the positive skin tests. This phenomenon of "group reaction" is better appreciated and more easily interpreted through the work of Hitchcock and Standley.⁶ These authors have arranged and numbered all plants in the District of Columbia consecutively according to generic relationship. For example, all the grasses are included in family 16, and the ragweeds in family 152.

The following case history will serve to illustrate the points worthy of emphasis and essential to a correct diagnosis. A student, aged seventeen, had been a hay-fever victim for seven years. The duration of symptoms extended from the middle of April to the end of May. He was tested on two occasions with a total number of twenty-two pollens, eleven of which yielded positive skin reactions. These included pollens of nine trees and two grasses. The list presented in Table III embodies the family number and dates of pollination of the trees, the pollens of which reacted posi-

TABLE III
POLLENS THAT REACTED POSITIVELY

<i>Name of Tree</i>	<i>Family Number</i>	<i>Date of Pollination</i>
Black Walnut	36	May 3
Hickory	36	May 3
Ironwood	37	April 15
Hazelnut	37	February 22
Alder	37	February 22
Black Birch	37	April 15
Beechnut	38	May 2
Chestnut	38	June 15
Scarlet Oak	38	April 15

TABLE IV
POLLENS THAT GAVE NEGATIVE CUTANEOUS REACTIONS

<i>Name of Tree</i>	<i>Family Number</i>	<i>Date of Pollination</i>
Crack Willow	34	April 15
White Poplar	34	March 20
Mock Orange	40	May 18
Paper Mulberry	40	May 1
White Mulberry	40	May 1
Honey Locust	82	May 8
Box Elder	97	April 8
White Ash	124	April 9

tively. The pollens which gave negative cutaneous reactions were obtained from the trees listed in Table IV.

It is noteworthy that members of families 36, 37, and 38, all closely allied, have given

positive skin reactions. This is a striking example of group reaction. The families of trees numbered 34, 40, 82, 97, and 124 have given negative reactions.

Symptoms of hay-fever in the patient under consideration were well marked about April 15. The ironwood, black birch and scarlet oak, the positive reactors, were advanced in pollination on that day, as was the crack willow in the group of negative reactors. A botanical survey of the District of Columbia has revealed the fact that the number of ironwoods and black birches is small and that these specimens are found chiefly in the parks. The oaks, however, are numerous and are used extensively in lining the city streets.

Field observations, when correlated with clinical symptoms and with skin tests, will frequently suggest the guilty pollen. Final judgment must be based, however, on the subcutaneous reaction to a small quantity—three to five pollen units of the pollen extracts in question. A positive subcutaneous reaction consists of a diffuse swelling at the site of injection, accompanied with redness and a sensation of heat and of itching. The subcutaneous reaction to pollen protein furnishes more specific and diagnostic information than the cutaneous or intracutaneous reactions.⁷ Therefore, in 55 per cent of the spring hay-fever cases showing multiple positive skin reactions, supplementary subcutaneous tests with minute quantities of pollen extract have determined the exciting cause of the disease.

It is of interest to list at this time the tree pollens which have been found not responsible for clinical cases of hay-fever:—arbor vitae, alder, blue beech, beechnut, boxwood, butternut, chestnut, elder, ginko, black gum, sweet gum, hazelnut, ironwood, larch, honey locust, mock orange, pine, tree of heaven, and willow.

The duration and severity of symptoms compel patients with hay-fever to seek relief from their distress. There is no justification in any doctrine which would deny treatment to 6.44 per cent of hay-fever victims.

The requirements for the successful treatment of tree-pollen sensitive patients are similar to those which govern the treatment of the vernal and autumnal forms of hay-fever. These have been adequately discussed in the literature. The pre-seasonal treatment which should be begun six to eight weeks prior to the usual date of onset of symptoms is the

treatment of choice. However, seasonal treatment, as advocated by Vaughan,⁸ will afford gratifying relief to those who present themselves during the acute stages of their affliction. Correct diagnosis of the offending pollen and the administration of a potent pollen extract are of fundamental importance.

SUMMARY AND CONCLUSIONS

1. Fifty-one or 6.44 per cent out of a total of 791 hay-fever patients have been found sensitive to tree pollens.
2. The pollens of the oak, the hickory and the sycamore are the chief excitants of early or spring hay-fever, in the District of Columbia.
3. Tree pollenosis is likely to be confused with the "common cold."
4. The symptoms of tree pollenosis may be prolonged in duration and severe in character. Asthmatic symptoms have been present in 50 per cent of the series, herein reported.
5. Regional field surveys are of paramount importance. One hour in the field is worth three hours in the library.

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SURGICAL TREATMENT OF PELVIC INFECTION.

By G. H. REESE, M. D., Petersburg, Va.

The surgical treatment of pelvic infection, as understood and practiced today, is dictated largely by its etiology.

Of the three main groups into which this affection is divided, namely: the gonorrhoeal, the puerperal, and the tubercular, the first and last, under certain well understood conditions, lend themselves readily to extensive surgical intervention; while the puerperal variety, on account of its streptococcic origin, rarely, if ever, presents a safe indication for surgical effort.

Of these groups, the gonorrhoeal is by far the most benign as well as the most prevalent, constituting from 50 to 75 per cent of all cases; the tubercular presents about 7 per cent; while the more fatal puerperal type accounts for the remainder.

The pathology of gonorrhoeal pelvic infection is found mostly in pus-tubes, tubo-ovarian abscesses, pelvic or abdominal abscesses, suppurating or sclerotic ovaries, peri-appendicitis, adhesions, and a uterus usually diseased and retroverted, particularly in chronic cases.

The onset in this type of pelvic disease may be stormy or relatively quiet. It may be delayed weeks, months and even years after the external genitals and cervical glands have become infected. At times gonorrhoeal infection seems to produce but little influence on the peritoneum beyond a mild congestion and toxemia. On the other hand, it frequently produces symptoms and signs of a fulminating diffuse peritonitis, which, however, is rarely persistent and almost never fatal.

So well known has this outstanding fact of gonorrhoeal infection become that surgical treatment of this condition has been radically changed.

Acute salpingitis, uncomplicated, is no longer regarded as an emergency operation, or even as an operative condition.

The stormiest of these cases almost invariably begin to subside as soon as they are placed in bed with an ice-bag to the abdomen, and given appropriate symptomatic treatment. This is true of the early peritoneal irritation caused by a purulent tube, as well as pelvic and tubo-ovarian abscesses that are encountered in the pyrexial stage. The modern treatment of these cases, first, last, and always, is to put them to bed and try conservative measures first. This almost uniformly succeeds in controlling the more distressing symptoms, and frequently a tremendous amount of pathology disappears, and the patient may find later any sort of an operation to be undesir-

able. In quite a number of these cases recovery of the generative organs seems to be complete, as proved by a subsequent pregnancy.

If, however, the patient fails to respond to this conservative treatment within a few days, it is unwise to delay. Careful examination should be made for bulging tubes, or a localized abscess, that might be incised and drained. When such are present, they are generally low in the pelvis, and are readily evacuated through the vagina. This is very easily done when the mass presents in the cul de sac, but when the tubes have not prolapsed it is much more difficult. In such cases a free incision should be made into the cul de sac, the fingers passed up the posterior surface of the uterus, freeing any adhesions met with, until the mass or masses are clearly and distinctly outlined from adjacent structures. Then, with the finger as a guide, the abscess or abscesses may be opened with a long pair of curved forceps, a drain inserted, and this acute condition quickly relieved with a minimum of danger and discomfort to the patient.

This relieves permanently about one-half of these cases. It fails to give relief to the other half, because of visceral adhesions and ovarian damage, the latter brought about by contracting adhesions, sclerosis, or infection. When a later operation has to be done, it is performed in a pelvis that has been cleansed mostly by nature's method. The surgeon's work is then constructive. He frees adherent structures, mobilizes and restores to normal position the uterus, removes the appendix, seeks to conserve tubes and ovaries as far as possible, and peritonealizes all raw surfaces. Every effort should be made to conserve tubes and ovaries in the young. This is best done by the conservative measures outlined above. It is impossible in an acute or subacute inflammation to tell how much of anything to remove. A purulent ovary demands removal at operation. Nature might, if not thwarted, use a better method of eliminating this infection.

In women past forty or, perhaps, thirty years of age, provided they have children, conservatism is not so important; and in the face of marked pelvic pathology, the surgeon is perhaps wise to make a clean sweep of all pelvic organs at once, rather than have succession of gynecological operations.

The uterus, tubes and ovaries, if badly diseased, should be removed without hesitation,

the uterus being removed by a supravaginal incision, and the cervical canal burnt out or cut out for the double purpose of obliterating a cervical discharge and the possibility of a future malignancy. If the cervix is badly diseased, a total hysterectomy should be done. If both ovaries are removed, the uterus should also be removed. It is then a useless organ, usually diseased and, if left, is almost certain to cause trouble.

This is a sketchy presentation of the ideal way of treating these cases of gonorrhoeal infection. It has, however, its drawbacks. It requires almost unlimited hospital facilities, or a fund of private wealth for its consummation. The minimum time required is from six to nine months after defervescence. It is a time-consuming and expensive procedure. There is no question, however, of its efficacy from a strictly surgical standpoint.

Simpson reports 475 consecutive laparotomies for pelvic infection of tubal origin, treated ultra-conservatively, with but four deaths. Other surgeons adopting his methods have reported approximate results. This shows up the old minimum mortality of from 8 to 10 per cent, when operating radically in the face of acute infection.

But, as stated above, the question of hospitalization and financial responsibility enters here as a very practical complication of an ideal scheme, prompting surgeons to seek a happy medium and find a relatively safe, as well as economical point for the disposal of these patients. All of these agree that defervescence and a return of leucocytosis to normal mark the earliest point at which an operation can be done with a fair degree of safety. At this stage the inflammation has by no means subsided, the tubes are full of pus, but the infection has lost most of its virulence, the body has developed resistance, and extensive operations may be done with but little reaction as a rule, regardless of the amount of pus present. Drainage even may be dispensed with in these cases, with seeming benefit, provided hemostasis is complete and no necrotic material has been left on the wall of an old abscess. In fact, the less drainage these cases get after the focus of infection has been removed, the better they seem to progress.

This conservative treatment is applicable to all acute pelvic infections of gonorrhoeal origin, whether primary or whether the result

of acute exacerbations of long standing infections.

These latter are often the most dangerous of all on account of becoming the seat of a mixed infection from migrating bacteria from the bowel, or other sources of infection. Oft-times colon bacilli are found in these abscesses, as well as staphylococci and streptococci. Hence, the urge of wariness in considering radical measures in the face of acute pathology.

Kelly states the case for conservatism, as follows:

"1. An acute gonorrhoeal salpingitis almost never ends fatally.

"2. Symptomatic recovery is almost invariable.

"3. The functional integrity of the tube is not always destroyed by the disease, as pregnancy may follow.

"4. Operations performed on the acutely inflamed pelvic organs and peritoneum are accompanied by much bleeding from many points and are provocative of adhesions.

"5. Plastic procedures necessary to obliterate raw surfaces are impossible."

And it may be repeated that extensive operations on acute inflammatory conditions invariably carry a high mortality.

The surgical treatment of puerperal infection has been the cause, perhaps, of a greater diversity of opinion and procedures than any other disease known to medicine. In later years, due to a better knowledge of bacteria and their habits, a kind of nihilism has arrived to supplant the various operative efforts formerly indulged in. DeLee says, "For the last ten years I have practically dispensed with local treatment in puerperal infection, being convinced that it does more harm than good. Only if the woman is having uterine hemorrhages do I interfere, and then by packing the uterus with 2 per cent iodoform gauze to stop the flow, and aid the expulsion of the retained masses causing it." This infection is usually streptococcic and is essentially a cellulitis, differing markedly from the gonorrhoeal which has a predilection for mucous membranes. It generally starts in the uterine wall, invades the broad ligaments and pelvic fascia, where it may remain, or it may continue to spread until the tubes, ovaries and a large part of the peritoneum are involved. If the uterus contains a detached mass of septic placental tissue or membranes, and the cervix is patul-

ous, it may be removed by sponge forceps, a dull curette, or the fingers. It is questionable whether any dilatation of the cervix should be done for any reason other than hemorrhage. The removal by any means of a partially detached placenta, or membranes, in face of an infection, merely opens up fresh atria for more infection. It is the opinion of many if not most authorities that nature's method in these cases cannot be improved upon by our present groping efforts.

It should be remembered that curettements, dilatations, irrigations and manipulations of any kind in this condition, are just as illogical as the same procedures would be in a case of erysipelas or a streptococcic sore throat.

The offending organisms cannot be reached by these methods. The chills and fever are due to infection far removed from the uterine cavity. Those in the detached or partially detached membranes may often be removed without a particle of benefit to the patient, but often to her undoing.

Whenever an abscess or any other collection of pus is found, it should be incised and drained. This should be done wherever possible by the vaginal route, because of the smaller disturbance created and the better drainage secured.

There are two other operations that are employed in some of these cases, that would be of marked benefit if the indications for them were more clearly marked. They are the extirpation of the uterus and the ligation of the pelvic veins, with a view to stopping the progress of a thrombophlebitis.

It is generally admitted, according to DeLee, that in the following conditions, in all of which the local lesion is the predominant factor, hysterectomy is justifiable:

"1. Rupture of the uterus with infection, perforation of the uterus with beginning peritonitis, or perforation of the uterus during local treatment of an infection within it.

"2. Infection of a fibroid, or when a fibroid has been much bruised by an operative delivery and infection is feared.

"3. Cancer of the uterus.

"4. Infection with molar pregnancy.

"5. Abnormal adherence of placenta with infection.

"6. Incarceration of all or of a part of the

ovum, for example, missed abortion, or labor with infection.

"7. Uterine abscesses.

"8. Gangrene of the uterus."

The mortality of hysterectomy in these cases is high, the abortion cases attaining 43.3 per cent, while the others are from 51.8 to 75 per cent.

There seems to be but little to recommend such treatment except in recent cases of rupture or puncture of the uterus and malignancy.

Likewise, the ligation of the pelvic veins has yet to prove its superiority over the conservative treatment.

Regardless of operative treatment, every effort should be made to conserve and increase the vital forces of the patient. While of doubtful value, anti-streptococcic serum and vaccines may be tried, blood transfusions and fluids pushed, and other proper symptomatic and supportive treatment administered.

When recovery ensues, it is usually complete and does not leave the pelvic organs crippled and cluttered up by adhesions, as does gonorrhoeal infection. Its chief danger is sepsis and peritonitis, or both. Sepsis is almost invariably fatal. The peritonitis is treated as any other peritonitis except that the drainage should always be by the vaginal route. Rarely are there any tubes, ovaries, or adhesions to be removed or freed, following this infection. When the fever subsides, the patient is, as a rule, well on the road to recovery.

The tubercular variety of pelvic infection is secondary as a rule to a pulmonary focus. It should be treated as an ordinary tubercular case. If the symptoms become aggravated, the treatment is that of tubercular peritonitis. It is generally found only with extensive peritoneal involvement, and is usually an extension of this disease. There are two varieties: the moist and the dry just as in tubercular peritonitis. The moist variety lends itself to operation, which consists of opening the abdomen, the removal of all possible tubercular masses, and closing the wound without drainage. This should be followed by a vigorous effort to build up the patient's resistance. While the reason for operative benefit in these cases is not clear, it is surprising to note the improvement following surgical effort that a large percentage of these cases present.

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3 North Adams Street.

A SIMPLE VEIN OCCLUDER.

By HOWARD L. SMITH, M. D., Washington, D. C.

The treatment of varicose veins by the injection method has again been revived and is now definitely established as the most conservative method in effecting a cure. For the past year we have employed this type of therapy in all uncomplicated cases, or unless a definite contraindication has been present.

The various methods, outlined by eminent men who have devoted considerable time to this work and who have contributed valuable information to practicing physicians who have not had the advantage of research in large out-patient clinics, have been followed and it has been found that with the proper technique, the desired result can be accomplished with simpler and less toxic solutions.

Various devices prescribed, in an attempt to occlude venous circulation about the point of injection, have been employed, all of which have been more or less effective, but most of them requiring the aid of one or more assistants. I have devised a simple but practical implement to overcome this obstacle, which is in the form of a vein occluder and which we believe will be helpful to those doing this work in general practice who do not have available assistants. The entire procedure may be carried out in your office or in the home of the patient, without any additional help.

This device consists of an annular ring, made of any suitable substance of solid consistency, and is molded to suit the operator as regards size and shape. Practically all physicians will be able to find among their antiques an old hard-rubber uterine ring pessary which would answer the purpose and could be formed into the desired shape by immersion in warm water. To this is fixed a heavy cloth or elastic tape, about two feet long and about one inch wide, to the short end of which is attached a buckle as shown in Figure 1.

The center of the ring is placed over the point of injection and the tape is wrapped tightly about the leg in a spiral manner, at first downward across the end, and then upward through the buckle, drawing the tape



Fig. 1.—Shows device improvised for use in injecting veins.

taut and fixing it in this position. Thus, regional occlusion about the vein to be injected is established as well as venous stasis of the superficial veins of the leg below this level. The injection is then made, after which the ring is left in position for a few minutes, the time depending upon the solution used.



Fig. 2.—Shows manner of injecting veins.

It has been found that with this device better results are obtained because the solution is held within the vein for a longer period of time and the simpler and more desirable irritants, such as sodium chloride and glucose, may be employed with impunity, thus eliminating the complications sometimes seen with

the use of stronger and more dangerous solutions.

This type of occluder may be used over any portion of the leg and we believe it is well worth a trial by those doing this type of work.

1801 *Eye Street*.

PSEUDOCYESIS.*†

By J. BAY JACOBS, M. D., Washington, D. C.

The incentive for writing this paper is the relatively large number of cases of spurious pregnancy that sought admission to the obstetrical clinic of Georgetown University Hospital—all within a short period of time. This subject is treated in every text-book of obstetrics and all practitioners sooner or later have their experiences with it.

The definition has been confusing at times, for some authors have reported cases of missed abortion which they called pseudocyesis. In reality these patients are not pregnant, and the condition is best expressed by Williams' phrase, imaginary pregnancy. The symptoms that women regard as diagnostic of pregnancy are the cessation of menses, enlarged abdomen, and the "feeling of life." If coupled with these there exists an underlying or subconscious mental complex, which gives the patient a feeling of assurance as to the existence of pregnancy, one can readily understand why the diagnostic ability of the physician has been baffled, and why, even after the diagnosis of pregnancy has been disproved by careful examination, it is a major task to convince the patient as to her true condition. The old adage,

"Woman convinced against her will,

Is of the same opinion still," may be offered as an explanation for the embarrassment and difficulty that may confront the diagnostician.

Women near the menopause form the majority of these patients. The fact that most of them have had children previously does not simplify matters. At this time the periods are generally irregular and scant; the patient begins to take on fat, especially in the abdomen and breasts, causing enlargement of these parts; and the movement of gas in the intestines, or the contraction of the muscles of the abdomen produce the sensation of quickening. Some of them give a history of irregular bleeding dur-

ing their former pregnancies. Cases of conception occurring a few years after the climacteric have been reported. Young women form a fair percentage of the cases. They sometimes give a history of irregular menstrual periods normally. Several of the signs and symptoms of pregnancy may be present, and should the patient be unmarried she will usually admit sexual indulgence.

Cases are found with no apparent cause; others may be due to carcinoma of the uterus, fibroids, ovarian cyst, ascites, reflexes from the pelvic organs, a phantom tumor that disappears under anesthesia, or a spasm of the diaphragm with a relaxation of the abdominal muscles. Then there are those of nervous or mental origin, such as the desire to have a baby or the dread of having one; in illicit intercourse or seduction, intention of effecting marriage; and imposters convicted of murder hoping for postponement of execution.

Rarely, the spurious pregnancy is terminated by a spurious labor, the pains simulating parturition even in those who never observed anyone in labor. One such case is included in my series.

It is readily seen that if the intentions are to deceive, it is not difficult. Oftentimes in the husband's mind there is no doubt of the existing condition, for Gould and Pyle,² in the *Anomalies and Curiosities of Medicine*, report the case of a multipara confined to bed for fifteen months, during which time she did not cohabit, but developed signs and symptoms of pregnancy, the diagnosis being affirmed by a midwife; and the husband gave up in despair when, at the end of eleven months, she went into labor, and delivered a mass of hydatids.

Another amusing occurrence is the woman who, when told that she was not pregnant, triumphantly squeezed lactescent fluid from her breasts, and said she could feel life, and left to consult a more sympathetic accoucheur. It is interesting to know that men who are accustomed to vomit in sympathy with their pregnant wives can generally be depended upon to perform this function even when the pregnancy is imaginary.

From October 1, 1924, to June 3, 1927, seven patients attended the prenatal clinic at Georgetown who believed themselves pregnant, when they were not. Accurate histories were taken and all received a complete physical and ob-

*Read before the Georgetown Clinical Society, March 20, 1928.
†From the Department of Obstetrics, Georgetown University, School of Medicine.

stetrical examination. Follow-up visits were made to the dispensary over a period considered long enough to justify any opinion or diagnosis derived at during this study.

Five of the patients were colored and two were white; this is probably due to the preponderance of colored patients that attend our clinics. The ages varied between eighteen and forty-five years, two being eighteen years old. A brief discussion of the cases follows:

1. C. G., eighteen years old, had a baby two years before. She missed five periods, felt life, had toxic signs and symptoms, but was not pregnant.

2. E. A., eighteen years old, first menstruated at fifteen; periods regular every twenty-eight days, lasting six days; and missed three periods before coming to the hospital. Her systolic B. P. was 140, and she complained of spots before her eyes, headache, dizziness and heartburn. Urinalysis was negative. Aside from the normal findings at examination, the skin on the abdomen and chest was covered with a pigment rash, which was confirmed by the dermatologist. Primary areolae and a linea nigra were present.

3. P. G., twenty-eight years old, referred from gynecological dispensary June 3, 1927. First menstruated at twelve; periods regular. Missed eight periods, and came to hospital giving a history of nausea and vomiting and complaining of progressive enlargement of the breasts and abdomen. Some toxic symptoms were present and she could "feel life." On examination, she was found to have a retroverted uterus which could be felt only with difficulty, and the right ovary was palpable, slightly enlarged and tender.

4. M. C., thirty-five years old, missed three periods and come to prenatal clinic. The abdomen was large and rigid; the breasts were large and contained colostrum. After missing several more periods, and being able to feel life, she was discharged as not pregnant.

5. S. W., twenty-one years old, came to the clinic with a gynecological history of irregular menses, pregnant once, and delivered in 1922. This patient was large and fat and had amenorrhoea, coming on four years after the birth of her baby. There was morning sickness lasting two weeks, and Hegar's sign was positive. At five months she could feel life and had toxic symptoms. The amenorrhoea lasted ten months.

6. M. C., forty years old, a multipara, had her last baby ten years before. When first seen she had missed four periods; she gave a history of morning nausea, and said her weight two months before was 160 pounds. She was followed through eight months of imaginary pregnancy, during which time she felt life at the proper time, and prepared her baby clothes. The breasts and abdomen became progressively larger and by the end of the seventh month she had gained twelve pounds. There was no doubt in her mind as to the existence of pregnancy, and the husband assured me that he could see and palpate the motions of the baby. Her friends also remarked that she was noticeably pregnant. On examination, she had a retroverted atrophied uterus. It took several months to convince this woman that she was not pregnant.

7. M. W., about forty-five years old, had a normal menstrual history. She had had six children and two miscarriages. Last pregnancy occurred in 1917.

F. D. L. P. was February 20, 1925; E. D. C. was November 27, 1925.

Came to dispensary October 16th, presumably eight months pregnant. Had an amenorrhoea; abdomen and breasts were enlarged; felt life; colostrum was expressed from both breasts, and she was positive of being pregnant. On November 21, 1925, a few days before the estimated date of confinement, she went into labor. Two senior medical students stayed with her several hours, while she was having recurrent pains about every five minutes, when suddenly there was some vaginal hemorrhage. They 'phoned me and said that they had a placenta previa. On examination, she was found not pregnant, but was sent to hospital and admitted to gynecological ward. The only explanation I can offer for the hemorrhage was the return of her menstrual periods, with perhaps cramps, enhanced by the belief that she was pregnant and at term. She refused to listen when told that her pregnancy was spurious.

The advent of routine obstetrical examinations has done much to eliminate embarrassment for the doctor. It is his function to tell the patient whether she is pregnant and when to expect her baby, rather than have her inform him and engage him for a certain date, at which time she expects to be confined. The gain in weight, which is a marked sign, falls

off rapidly, sometimes as fast as half a pound a day, after the woman is made to recognize her delusions.

Because the condition most frequently occurs at the approach of the menopause, and manifests itself by the peculiar symptom-complex already described, it seems probable that an improper balance of the glands of internal secretion and especially ovarian dysfunction are the most important etiologic factors.

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The Chastleton Hotel.

STERILIZATION WITHOUT UNSEXING: A NEW OPERATION FOR STERILIZ- ING THE FEMALE IS DESCRIBED.*

By CHAS. W. PUTNEY, M. D., Staunton, Va.

Since the State of Virginia has seen fit to make certain advances in its legislation, whereby it is now legal to sterilize certain types of

this subject. It is indeed an honor and a privilege much appreciated, to be asked to present the surgical aspect of this subject at this time.

I will not touch on the indications other than to remind you that sterilization, at least in the female, is indicated not only in certain types of mental diseases, but also in certain other conditions as chronic nephritis, or in cases having had repeated Cesarean sections, etc.

Sterilization may be accomplished by X-ray or by operations on the tubes, ovaries, or uterus in the female, and by operations on the testicles or vas in the male. It is of foremost importance that the physiological function of the sex mechanism be undisturbed. This can only be done by such procedures as will obstruct the passage way of the germ cells from the generative sex glands to the physiological chamber of fertilization. This seems to be



Fig. 1.—First step in operation for excision of the cornu.



Fig. 2.—Second step in operation for excision of the cornu.

patients confined in its institutions, and as consulting surgeon to the Western State Hospital, I have become every much interested in

best accomplished by operations on the tubes in the female, and by resection of the vas in the male. In this way sterilization is produced permanently without altering in any other way the functions or gratifications pertaining to the sex mechanism.

According to Williams (*J. A. M. A.* Vol. 91, No. 17), our means of producing permanent sterilization of the female are restricted to

*Presented before the Clinic on Mental Diseases at the sixtieth annual meeting of the Medical Society of Virginia, in Charlotteville, October 22-24, 1929.

operations on the tubes and uterus. Theoretically, tubal sterilization may be effected by one of the following procedures:

1. Simple ligation. This has proven unsuccessful.

2. Double ligation, and section between the ligatures. Statistics show that double ligation has failed in more than 18 per cent, so it seems unwise to attempt sterilization by ligation or severance of the tubes alone. Section of the tubes with peritonealization of the proximal ends seems to be successful but is difficult to do, owing to the delicate tissue involved, and it also permits infection of the proximal stump.

3. Section of the tube and burial of its proximal end between the folds of the broad ligaments or in the depths of the uterine muscle. Irving, according to Williams, buries the proximal end of the severed tube in the uterine muscle. This may prove successful but it does not remove the cornu as a possible source of infection.



Fig. 3.—Third step in operation for excision of the cornu.

4. Excision of the entire tube, which is only indicated in the presence of pathology.

5. Excision of a wedge of the cornu and closure of the serosa. According to Dickinson (*J. A. M. A.* Vol. 92, No. 5), excision of a wedge of the cornu has failed in more than 7 per cent of the cases.

6. Various procedures, for so displacing or closing its fimbriated end so that ova cannot gain access to the tube. This seems impractical as it permits subsequent tubal inflection.

7. Separation of cornu from the uterus seems to be the most practical method. In the first few cases, I used the V-shaped incision, separating the cornu from the uterus. It soon developed that there was a tendency for the broad ligament to tear after the cornu was detached. Hematoma formed in the broad ligament as a result. Therefore, the technic was modified so as to anchor the tube, excise the cornu, eliminate hematoma, and minimize bleeding during the procedure. This makes it practically impossible for gonorrhea to later enter the abdomen and produce the usual complications. The steps in the operation are shown in the accompanying drawings. Apologies are offered for the drawings, which were made by the speaker, an artist not being available. A suprapubic incision is made which permits the removal of any pathology in the lower abdomen or faulty positions may be corrected.

EXCISION OF CORNU

With well trained assistance, we use the most complete aseptic technic possible. A midline incision, extending about four inches



Fig. 4.—Fourth step in operation for excision of the cornu.

upward from the symphysis, is made through the skin, adipose tissue and fascia. The muscles are separated, and the posterior fascia and preperitoneal tissue are incised. Hemostasis is secured and all bleeding points are tied at this stage. The peritoneum is picked up with hemostats and opened. The uterus is now brought up in the wound and is held steady by the finger of the assistant which is placed posterior to the fundus. Retractors, gauze packs and the Trendelenburg position are rarely necessary. A curved hemostat is now placed on the tube in such a position that it clamps the whole thickness of the tube, extending across the inner angle of the broad ligament, and is anchored to the uterine muscle just above the attachments of the ovarian ligament, as is shown in Fig. 1. The tube and broad ligament is now cut mesial to the hemostat as is shown in Fig. 2. A No. 1 cat-gut suture on a small curved non-cutting needle is now placed in the uterine muscle just above the point of the hemostat, and tied, leaving the end long. This suture is continued over the hemostat until the upper surface of the tube is reached. The instrument is removed and the tube slipped on the suture, and the suture is tied to the original end, which is again left long. This anchors the tube as in Fig. 3. The cornu is now excised with a V-shaped incision and the suture continued through and through the sides of the wound until the upper angle is reached, as shown in Fig. 4. The suture is continued back down the wound and tied to the original end. It is rarely necessary to place other sutures to secure hemostasis. Both tubes are treated in like manner and the abdominal wound is closed in layers without drain.

It will be noticed from the drawings that the operation is done above the anastomosis of the uterine, with the ovarian arteries, which is just below the attachment of the ovarian ligament with the body of the uterus. In this operation, properly done, the blood supply to the adnexa is not disturbed.

The operation is comparatively simple, and usually takes only about thirty minutes to do the complete operation. Apparently this operation should be successful, except as a result of faulty technic in closing the V-shaped incision. In this event a fistula in the cornu may result.

RESECTION OF THE VAS

This operation is very simple, and is easily done with the technic we use, which was worked out in collaboration with Dr. DeJarnette. A 2 per cent mercurochrome solution, to which alcohol has been added, is used. This does not blister the scrotum. The penis is drawn over to the opposite thigh with a strip

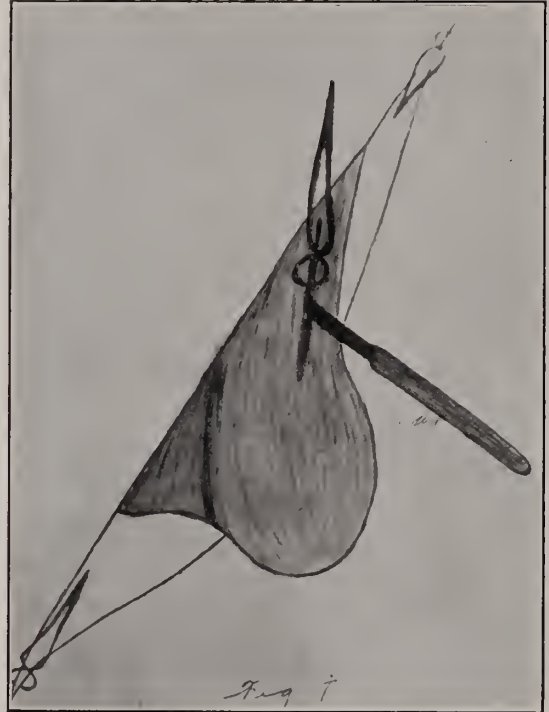


Fig. 5.—First step in operation for resection of the vas.

of adhesive, and towels are placed as shown in the diagrams. The cord is now located in the lateral aspect of the scrotum and rolled between the thumb and index finger until the hard vas can be felt as near the skin as possible. A large towel clip is then clamped in the skin behind the vas. Local anaesthesia is infiltrated into the skin over the cord. An incision, one-half to three-quarters of an inch long is made through the skin and fascia over the vas as shown in Fig. 5. All tissue is carefully dissected from the vas down to its white surface. The vas is now lifted from the wound by placing another towel clip posterior to it as shown in Fig. 6. It is then clamped and ligated in the upper and lower angles of the wound and the intervening portion is resected. The wound is closed with two or three sutures, both sides are treated in like manner,

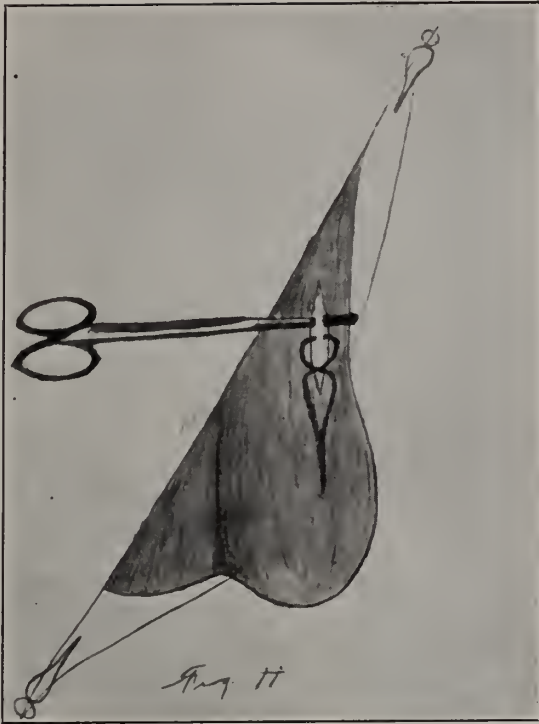


Fig. 6.—Second step in operation for resection of the vas.

and the patient is up the next day. This operation is painless, and practically bloodless as the vessels are manipulated so they become posterior to the vas, during the first manoeuvre. The cut ends retract and scar tissue forms between, rendering sterility practically certain.

Professional Building.

Correspondence

Endemic Typhus (Brill's Disease).

Richmond, Va.,
May, 1930.

DEAR DOCTOR:

In 1929 there were reported twenty-one cases of typhus fever in which the diagnosis was verified by this department. The cases were distributed as follows:

Cities: Richmond, one; Portsmouth, one; Norfolk, one; Charlottesville, one.

Counties: Accomac, two; Brunswick, one; Caroline, one; Charlotte, two; Fairfax, two;

Fauquier, three; Louisa, one; Orange, one; Richmond, one; Halifax, two; Stafford, one.

Most of these cases were quite severe. Seven of them died.

Typhus is so rare that it is easy to understand why cases are sometimes missed. The following is a brief description of the usual manifestations.

ONSET—Abrupt, with chills, severe headache and prostration. FEVER—Varies from 101 to 105. Rises with the chill, usually lasts for fourteen days and terminates by lysis. ERUPTION—Appears on the fifth day as a macular erythematous rash. In a few days the rash changes to a distinctly hemorrhagic or petechial nature and is maculo-papular in type. RESPIRATORY—Occasionally slight cough, due to bronchitis. CARDIOVASCULAR—Pulse rapid and occasionally dicrotic, due to prolonged toxemia. MENTAL—Nervousness during the early part of the disease, coma during the second week in severe cases. FATALITY—Most of the cases investigated in Virginia have been serious. In 1929, out of twenty-one cases, seven died. LABORATORY CONFIRMATION OF DIAGNOSIS—The agglutination reaction known as the "Weil-Felix" reaction is late in appearing and rarely present before the tenth day. It has been accepted by the United States Public Health Service as specific for typhus.

Two cases have already been reported this month: one from Portsmouth and one from Culpeper County.

Kindly report by wire, collect, all suspicious cases and state whether consultation is desired.

ENNION G. WILLIAMS,
State Health Commissioner.

Miscellaneous

Mortality Statistics for Southern States in 1928.

As a matter of interest, we publish the following tables in regard to Mortality Statistics in the Southern States. Arkansas and Georgia are omitted because they had been so recently admitted to the registration area that it is evident their statistics would be incomplete:

DEATHS		PREVENTABLE BY PUBLIC HEALTH ACTIVITIES							
RATE PER 1,000		RATE PER 100,000							
All Causes		Typhoid		Dysentery and Diarrhea		Malaria		Smallpox	
Virginia -----	11.7	United States --	4.9	United States--	29.7	Virginia -----	.5	Virginia -----	.1
Kentucky -----	11.9	Virginia -----	6.1	Louisiana -----	41.1	North Carolina--	2.2	United States--	.1
United States --	12.0	North Carolina--	6.5	Virginia -----	41.3	Kentucky -----	2.2	Mississippi ----	.1
North Carolina--	12.3	Alabama -----	9.6	Alabama -----	49.1	United States--	3.6	Alabama -----	.1
Alabama -----	12.3	Louisiana -----	13.4	Mississippi ----	52.3	Tennessee -----	8.5	Louisiana -----	.2
Tennessee -----	12.5	Mississippi ----	13.7	Kentucky -----	57.0	Alabama -----	11.8	Tennessee -----	.2
Louisiana -----	12.8	Tennessee -----	13.9	Tennessee -----	57.1	Louisiana -----	12.7	Kentucky -----	.2
South Carolina--	13.1	Kentucky -----	15.9	North Carolina--	59.3	South Carolina--	20.1	South Carolina--	.2
Mississippi ----	14.4	South Carolina--	18.5	South Carolina--	65.0	M'ssissippi ----	30.9	North Carolina--	.6

PREVENTABLE BY PUBLIC HEALTH AND INDIVIDUAL ACTIVITIES

RATE PER 100,000

Tuberculosis	Pneumonia and Bronchitis	Diphtheria	Pellagra	Puerperal
United States-- 79.2	Virginia ----- 83.3	Virginia ----- 7.2	United States-- 6.1	United States-- 13.7
South Carolina-- 81.1	South Carolina-- 97.4	United States -- 7.2	Kentucky ----- 7.0	Kentucky ----- 13.9
North Carolina-- 83.6	North Carolina-- 98.3	Louisiana ----- 7.2	Virginia ----- 7.5	Virginia ----- 16.6
Alabama ----- 90.6	Mississippi -----102.3	Tennessee ----- 9.2	Louisiana ----- 16.9	Tennessee ----- 17.8
Louisiana ----- 92.4	Alabama -----102.5	Mississippi ---- 9.7	Tennessee ----- 20.8	North Carolina-- 21.6
Virginia ----- 96.9	United States--103.2	Alabama ----- 9.6	Alabama ----- 27.2	Alabama ----- 23.3
Mississippi -----105.3	Louisiana -----104.5	South Carolina-- 10.1	North Carolina-- 29.0	Louisiana ----- 24.6
Kentucky -----108.3	Kentucky -----104.6	Kentucky ----- 10.5	Mississippi ---- 42.2	South Carolina-- 25.2
Tennessee ----134.1	Tennessee -----107.8	North Carolina-- 12.6	South Carolina-- 53.0	Mississippi ---- 25.4

PREVENTABLE BY PERSONAL DETERMINATION

RATE PER 100,000

Syphilis		Suicides		Homicides		Accidents (Auto)		Accidents (All)	
North Carolina--	11.1	Mississippi ----	5.0	United States--	8.8	Kentucky -----	13.4	South Carolina--	58.7
Kentucky -----	13.1	South Carolina--	5.8	Virginia -----	9.9	South Carolina--	13.5	Virginia -----	65.7
United States--	14.7	Alabama -----	6.0	North Carolina--	10.4	Mississippi ----	14.1	North Carolina--	66.7
Virginia -----	15.5	North Carolina--	6.4	South Carolina--	12.4	Alabama -----	14.6	Tennessee -----	68.0
Tennessee -----	15.7	Louisiana -----	7.9	Kentucky -----	17.5	Tennessee -----	15.3	Kentucky -----	73.2
South Carolina--	16.1	Tennessee -----	8.6	Tennessee -----	18.5	Virginia -----	16.0	Louisiana -----	73.6
Alabama -----	20.1	Virginia -----	9.0	Louisiana -----	20.8	Louisiana -----	17.8	Alabama -----	74.1
Mississippi ----	20.6	Kentucky -----	10.1	Alabama -----	21.3	North Carolina--	19.6	Mississippi ----	77.2
Louisiana -----	30.3	United States--	13.6	Mississippi ----	25.1	United States--	20.8	United States--	79.2

EVIDENCE OF ADVANCING YEARS BUT POSTPONABLE BY PERIODIC EXAMINATION

RATE PER 100,000

Cancer	Diabetes	Heart, Arteries and Cere. Hemo.	Nephritis
South Carolina ---- 42.5	South Carolina ---- 9.3	Tennessee ----- 215.2	Tennessee ----- 81.2
North Carolina ---- 51.7	North Carolina ---- 9.5	Alabama ----- 219.3	Alabama ----- 92.8
Alabama ----- 51.8	Alabama ----- 9.9	Mississippi ---- 221.0	United States ---- 95.0
Mississippi ----- 57.6	Tennessee ----- 10.1	North Carolina-- 238.0	Kentucky ----- 96.5
Tennessee ----- 61.2	Mississippi ---- 11.1	South Carolina -- 247.1	North Carolina -- 101.0
Virginia ----- 65.3	Virginia ----- 11.5	Kentucky ----- 251.5	Virginia ----- 111.5
Louisiana ----- 69.5	Kentucky ----- 12.2	Louisiana ----- 272.0	Louisiana ----- 114.5
Kentucky ----- 70.1	Louisiana ----- 12.3	Virginia ----- 285.6	South Carolina -- 121.9
United States ---- 95.9	United States ---- 19.0	United States ---- 316.6	Mississippi ---- 124.5

President's Message

It is customary with all business organizations to take stock and see whether they are really giving the service that they should. Following this example, the Medical Society of Virginia is trying to take stock, for there is great doubt in regard to whether we are giving the best possible service to our membership. This stock taking will necessitate certain experiments with the old form of program, which will be placed before the membership of the society asking for criticism, as to whether the experiment is really what the members want.

Thus a great deal of criticism has been voiced in regard to the last meeting of our society at Charlottesville. This is principally due to the fact that we were unable to take care of our program, although we managed to get through by hurrying up and cutting off discussion. Our program called for a meeting on Thursday evening, which we were not able to hold at all, while the Thursday afternoon meeting was only attended by men who read papers and their special friends, whom they had asked to discuss them. This is certainly not fair to the members who have prepared papers, nor is it good for the members of the Society as a whole. Indeed, a large number of our society members seems to feel that when the entertainment is over there is little else to do, while a still larger number apparently feels that the session ends with the Report of the House of Delegates and the Election of Officers for the next year.

In order to relieve these conditions, the Program and Publication Committee has decided that it would make an attempt to do away with the last poorly attended sessions. To accomplish this, we propose to give the Report of the House of Delegates at noon on Thursday, after which the society will finish its session at an oyster roast. This will allow those who desire to leave, to do so after the Report of the House of Delegates, although it is sincerely trusted that everybody will be able to stay over to the oyster roast.

There has been further criticism that there were many papers presented which were not given sufficient thought in their preparation, and for this reason the Committee has decided: "That no paper will be accepted unless the title with a summary of one hundred and fifty

to two hundred words be sent in to the Secretary on or before September 1st." At this committee meeting the President was instructed to notify the members of the society, through his Message, of this change in our plans, and to ask full cooperation of people desiring to present papers, so that we might have a thoroughly good scientific program. As there has been a great awakening of interest in Clinical Work in the State, it was decided to permit each man to present a patient or patients, illustrating the points covered by his paper, provided he does not exceed the time limit set by the By-Laws.

I trust that this change in our usual program will not make any of the members of the society feel that a paper from them is not desired, for our purpose is merely to allow a well arranged program. At the same time the Program Committee will have to take advantage of its privilege to have any paper, which cannot be well placed on the program, read by title, although they will be published in full in the VIRGINIA MEDICAL MONTHLY. While making this announcement I want to call your attention to the fact that our By-Laws specifically require that every paper read must be turned over to the Secretary of the Society for publication in the VIRGINIA MEDICAL MONTHLY. Certain men have not been complying with this in the past, and I will have to remind them that the officers of the Society have no option in this matter, and will therefore have to require that a copy of each paper be turned in at the time it is read. The MEDICAL MONTHLY is being read more and more by the physicians in this State, and I feel that any man really neglects a great privilege, when he fails to have his paper thus brought to the attention of the majority of physicians practicing in Virginia.

I will again repeat that this change of program is being tried with the idea of giving the majority of the members of the Society something which they really desire. We ask for full cooperation and earnest constructive criticism, so that in the future further changes can be made which will be of real benefit to our Society.

CHARLES R. GRANDY, M. D.,

President, Medical Society of Virginia.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Continuation Education for Practitioners.

The work of the Department of Clinical Education will cease for the summer months, when two additional Clinical meetings now scheduled have been held.

The results obtained so far have been most encouraging, and increasing interest has been shown by the profession throughout the State. The papers and lectures, accompanied by conferences and clinic demonstrations, have attracted unusual attention, and while various methods of instruction have been utilized, these combined conference clinics seem to have been most popular from an instructional standpoint. General discussion by attending physicians of the cases and clinic series, when presented, have not always been as full and free as could have been desired, but this is the only pertinent criticism that could have been made of any of the meetings. When it is realized, and statistics prove it, that a rather large proportion of practice is confined to a relatively few diseases, either in general or special practice, it is necessary that as far as possible many of these diseases should have been the topics of most of the meetings. This plan has been followed, as appealing to the largest interest of the local profession, and will be continued in the future as the policy of the Department in its cooperative efforts with the local societies. The attendance at all of the recent meetings has been most satisfactory.

With the same continuity of professional spirit, and the same equality of service, as has so far characterized the work of local member groups, the Department of Clinical Education is assured of great future usefulness, and the importance and perpetuity of its ideals of constructive educational assistance to the Society membership generally will be firmly established.

The work is for us — the benefit, for us and others. The program is not static.

Scheduled Meetings

—Only two remaining clinical meetings are scheduled for the summer.

—One will be held at Harrisonburg by the Rockingham County Medical Society, of which definite notice will be given later, and the other by request, at Richmond for the Negro physicians during the month of June.

Recent Meetings

—The Post-Graduate clinic courses given at the University of Virginia May 1-3, and at the Medical College of Virginia, May 12-15 as announced in the May issue, and in conjunction with this Department, were more largely attended than at any previous sessions.

In both series, every-day diseases scientifically discussed, were demonstrated, and most favorable opinions of the value of this continuity of subject and its clinical exposition have been received.

The University Faculty discussed mainly allied medical conditions, and the Faculty of the Medical College of Virginia, together with several invited guest clinicians from West Virginia, North Carolina, and other cities in Virginia, emphasized surgery with special reference to the general practitioner.

The lists of attending practitioners at each of these clinics will be found elsewhere in this issue.

Preface to Report

As will be recalled, the Extension Department of the University of Virginia aided the Medical Society of Virginia in its work of initiating Graduate Medical training by making a survey and report of similar efforts by other medical societies and state agencies.

The authors of this valuable work, to whom we are greatly indebted as a society, have requested this Department, in order that the Society's pioneer efforts in this educational field may be properly recorded, to write the "Introduction" to the pamphlet containing the report which is to be issued soon, and it accordingly is as follows:

Introductory to Report on Continuation Education for Practitioners

Many problems are concerned with professional practice. The Science of Medicine has always been evolutionary and progressive, and to keep in touch with its advances, every practitioner must study continually its trend and developments.

Medical Education and its clinical application to disease are, of necessity, closely related, but it must be evident to every thinking student of applied medicine that to date, many colleges teaching the Science and Art of Medicine, although their basic training may have

been excellent, have yet failed to fit their graduates to bridge successfully the medical sciences into their proper clinical application.

In other words, while many graduates may be technically skilled in some, or many of the branches of the medical sciences, yet the curricula which they have mastered have not visualized the total objectives of the basic training in relation to the various problems and existing conditions that are to be met in actual practice.

Hence, closer allied with the scientific training, must be the common-sense correlation of other present and practical subjects with which the prospective graduate must be thoroughly familiarized, if, in this new day of medical progress, he is to realize the fullest usefulness of the profession; for, today, he must know not only the best methods of diagnosis and treatment of disease, especially in its incipency, but also the prevention of illness and the importance of advisory health work, not to mention the relationships and contributions which future medicine can make to many phases of national life, such as to industry, human behavior, and social welfare.

Fortunately for the physician of the future, there will soon be less stress upon courses and credits in medical college training, and more upon knowledge and upon the individual student, in order that he may the better meet local and personal needs practically, and scientifically adjust them to existing environment.

The failure of many practitioners to have had such advantages, or later, from circumstance, to have been denied the benefits of professional contacts, renders the duty of this Society all the more obligatory, in order that it may bridge this lack of special training into terms of actual service to its members, as well as keep them abreast with the approved advances of modern scientific medicine and its application to the needs of the individual, and the community.

To improve such conditions, many methods recently have been devised and variously applied.

Now, many medical schools are seeking to develop in their students sound habits, as well as methods, of study which will equip them with a sufficient fundamenal training to continue their self-education, and take advantage of the future developments in medical science and practice.

Among the states working on this problem have been notably Missouri, Nebraska, North Carolina, Wisconsin, Connecticut and others; among University Medical schools, Pennsylvania, Harvard and others; and among Post-Graduate institutions, the New York Medical Schools and the Mayo Clinic.

In this report, references and conclusions as to the methods adopted and results obtained from these and other sources will be found summarized and tabulated.

In addition to the regularly organized Post-Graduate Courses offered by some of the Universities, a limited number of medical societies and state health departments have endeavored, also, to formulate programs for Extension Graduate Courses, which would obviate the necessity of the practitioner leaving his work.

The Medical Society of Virginia, realizing such a necessity, has been much interested during the past three years in solving this problem.

In 1927, Dr. J. Shelton Horsley, in his presidential address at Petersburg, officially suggested the importance of some method of Graduate Medical training and, during his term of office as president, Dr. J. W. Preston was impressed, from observation, that after graduation the average practitioner of the State is left to his own limited resources in so far as his school of graduation is concerned, and that those most closely confined by their work, and who are most in need of help, have heretofore been given the least assistance by their medical colleges, or our medical organization, and he believed that the development of some workable plan to meet the situation should become the major objective of the Society. As Chairman of a special Committee on Post-Graduate Study, instituted during his administration, he enlisted the assistance and cooperation of the Extension Department of the University of Virginia, Mr. George B. Zehmer, Director, and Mr. George W. Eutsler, Associate Director. Their work covering a study of several months into the general and special local conditions prevailing in all of the different states which had either developed a system, or were endeavoring to effect some method applicable to their necessities, is herewith submitted, as edited by Dr. Preston, and has been in general the basis of

the plan undertaken by the Medical Society of Virginia.

This work of the Extension Department, in collecting and collating the facts, has been so comprehensive in its scope, and so detailed in its study and application, that it speaks for itself, and will be educative to every interested reader.

In pursuance of these efforts to provide Continuation Education Courses for its members, the Medical Society of Virginia at its Charlottesville meeting in October, 1929, was presented with a report from Dr. J. Allison Hodges, Chairman of the Committee on Medical Education and Hospitals, outlining a plan for Continuation Education for Practitioners. This report, with the concurrence of the Committee on Post-Graduate Study, was unanimously adopted in all its details by the House of Delegates.

The plan proposed, briefly stated, provides for the election annually of seven members of the Society, who shall compose the Department of Clinical Education, as follows: three of the members to be chosen from the Society membership at large (one of them, the President-Elect for the year, to be Chairman), one representative from each of the two Medical Colleges in the State, one representative from the State Department of Health, and an Executive Secretary, who may be either a physician, or a layman.

The dominant idea of this Department is that it shall be the central medium between the Society and its constituent county units, and shall act as a supply and exchange station for information and correlation of the work for Continuation Education to its members, by assisting the local societies in securing additional lecturers and clinicians, and otherwise cooperating as requested; the component Medical Societies being the vitalizing factors, the ten Councilors of the Society being the Advisors, and the State Medical Society the Sponsor and connecting link between these units, through this Department, aided by an Advisory Board composed of members of the Society's Standing Committees on Medical Education and Hospitals, and Scientific Work and Clinics.

At a meeting held on December 4, 1929, in Richmond, the work of the Department of Clinical Education was officially put in operation, and is summarized in

The Following Plan:

1. MAJOR BASIC FEATURES:

a. To carry to the practitioner in his own community, through the Department of Clinical Education, the progress and recent advances in Medicine and Surgery by means of Diagnostic Clinics, Conferences, Clinical Reviews, etc., in certain localities and hospitals, mutually selected;

b. To aid in the establishment ultimately of fully organized Post-Graduate Educational and Clinical courses by the Medical Colleges of the State; and

c. To encourage and assist the State Society and its Journal.

2. MINOR COLLABORATIVE FEATURES:

a. Hospital and Laboratory exhibits and privileges extended by the District and City Hospitals on certain days to doctors in their immediate vicinities, regularly scheduled each week, and published monthly in advance in the Society Journal;

b. Journal Clubs, and Correspondence Education Courses, published at intervals in the Society Journal, on subjects requested by members;

c. Later on, radio addresses on Medical and Surgical progress to doctors, and to the public occasionally, by doctors at different radio broadcasting stations throughout the State;

d. An interchange of Clinicians from one District, or city, or college to another, as occasion offers;

e. Ultimately, these advantages and privileges to be given to the Negro physicians of the State, if desired, as far as practicable;

f. Other methods of instruction and of practical Clinical Education to be used, as opportunity affords, to meet existing needs in special localities without professional contacts, and

g. These features to be instituted gradually according to agreement between the local societies and the Department.

The foregoing schedule as outlined, and now in practical operation, is proving to be of constructive benefit in the sections where it has been applied, and it is believed that it is the best available, especially in view of our limited financial resources, and it is hoped that it will be of increasing usefulness in Graduate Medical training, for this is now becoming of great

importance in the general scheme of professional education and medical service.

The Report of the Commission on Medical Education, Dr. Rappleye, Director of Study, says that with the enormous increase in knowledge, the ever widening responsibilities of medicine, and the continuous development of technical methods and accessories for early diagnosis and treatment of disease, it is quite evident that the education of the physician can never end, for the gap between our knowledge and its application is not lessening, and must be constantly bridged at the speed at which new developments in Medicine are being made. This can be done only by keeping abreast of new knowledge, and it is urgently necessary that practicing physicians in our State be helpfully stimulated and educated, so as to keep in step with approved modern advances.

To aid in the solution of this scientific and humanitarian problem, to assist in rendering more useful the profession of Medicine and its practice by lifting the doctor out of the rut of dull routine into the field of newer practice, and finally in behalf of better education for physicians and longer life resultantly for the people, this report is herewith published and presented with the compliments and best wishes of the Extension Department of the University of Virginia to the members of the Medical Society of Virginia.

Information

All members of the State Society are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Acting Executive Secretary, Mr. George W. Eutsler, P. O. Box 707, University, Va., or to the Chairman of the Department of Clinical Education, 5 East Franklin Street, Richmond, Va.

Proceedings of Societies

Joint Meeting of Committees on Publication and Program and on Scientific Work and Clinics of the Medical Society of Virginia.

A joint meeting of these committees was held in the Society's offices, Richmond, on the afternoon of April 25th, with Dr. A. G. Brown, Jr., chairman of the Committee on Publication and Program, presiding. Those present

were: Drs. Brown, J. H. Neff and Walter B. Martin, of the Publication and Program Committee; Dr. J. Edwin Wood, Jr., chairman of the Scientific Work and Clinics Committee; Dr. Charles R. Grandy, president, Dr. J. Allison Hodges, president-elect, and Miss Agnes Edwards, secretary.

Dr. Brown stated that this meeting had been called for the purpose of discussing plans for the program of the Norfolk meeting of the State Society and he wished a free discussion of the subject with a view to adding to the interest of the meetings.

After a free discussion, it was decided that, in view of the criticism of an over-crowded program at previous meetings, it seemed necessary for the next meeting to adopt the following plan:

1. That at the next meeting the report of the House of Delegates be made at noon on Thursday, October 23, after which the meeting shall adjourn finally to an oyster roast;

2. That the clinics to be given on Tuesday afternoon, October 21, be divided into three (3) groups, conducted simultaneously, at different locations, and that notice of the place and time of the clinics be published in the MONTHLY in advance for the information of members;

3. That notices be sent to members, inviting them to submit titles of "voluntary" papers to be placed on the program, but that no paper be accepted unless the title, with an abstract of the paper of 150 to 200 words, be sent to the Secretary by September 1;

4. That if the number of titles, with abstracts submitted, be in excess of the number necessary to make up a program, such additional titles of papers appear in the program to be read by title.

The above motions were duly made and seconded and were adopted unanimously.

Note. It will be the policy of the President to permit a member to present a patient or patients illustrating the points covered by the subject of his paper, provided the member does not exceed his time limit of fifteen minutes in so doing.

The subject of "Syphilis" was selected for the symposium for the Norfolk meeting, this to be subdivided into at least four aspects. Dr. J. H. Neff, of the University of Virginia,

was appointed to handle this feature of the program and to arrange for the presentation of the subject.

There being no further business, the meeting adjourned.

AGNES V. EDWARDS, *Secretary*.

Norfolk County Medical Society.

The session of the Norfolk County Medical Society on Monday, May 19th, was of an unusual type and was thoroughly enjoyed by the large number of the membership present. Turning aside for once from the accustomed consideration of questions of diagnosis and treatment, the evening was given to medical history as developed in the lives of a considerable number of men whose names stand out with distinction in the long line of scientists who have led the profession in its advance toward the goal of scientific attainment which ever seems nearer and yet full attainment is deferred.

Dr. Frank Hancock, historian of the Society, and orator *par excellence*, delivered the chief address of the evening, entitled, "Pictures of Eminent Medical Men of the Past." Photographs of most of those mentioned were thrown on the screen giving a more lifelike tone to the biographical and professional descriptions of these trail blazers to whom we owe so much.

Dr. Hancock dispensed with manuscript and as one listened to the rapid fire sketches of these various characters there came to mind Goldsmith's comment on the village Schoolmaster of his "Deserted Village,"

"And still the wonder grew how one small head could carry all he knew."

Following Dr. Hancock, a couple of portraits of the late Dr. John Peter Mettauer, pioneer physician of Virginia, were shown by Dr. W. L. Harris, who briefly reviewed his life and work.

Captain R. C. Holcomb, Commandant of the U. S. Naval Hospital, at Norfolk, gave some interesting data relative to a number of Norfolk's own men of eminence in the professional life of the last century, as brought to light by his researches in connection with his forthcoming book on "A Century of the Norfolk Naval Hospital." The Society deeply regrets that the Navy regulations call for the early departure of Dr. Holcomb from this station where he has won for himself a high place in the regard of the medical and dental professions with which his position has brought him

in contact. His genial presence and ever readiness to serve will long be remembered in Norfolk and Portsmouth.

LOCKBURN B. SCOTT, *Secretary*.

The Clinch Valley Medical Society

Held its regular meeting at the Mattie Williams Hospital, Richlands, Va., April 26th, under the presidency of Dr. Joseph E. Wolfe, Coeburn, Va. The secretary, Dr. C. B. Bowyer, Stonega, had assisted greatly in working up an interesting meeting. There was an attendance of forty-two of the fifty-six members of the Society. Clinics and lectures were given by Drs. Stuart McGuire and E. G. Williams, of Richmond, and Drs. J. C. Flippin and L. T. Royster, of the University of Virginia. Dr. Charles R. Grandy, Norfolk, President of the State Society, also made an interesting and inspiring talk before the meeting. This meeting was thoroughly enjoyed and the members were unanimous in requesting a similar program for their next meeting which will be held at Norton, Va., in September. Dr. J. M. Daugherty, Nickelsville, and S. C. Couch, Cleveland, are vice-presidents of this society.

The Piedmont Medical Society

Held its Spring meeting at Madison, Va., on the afternoon of May 16th, under the presidency of Dr. Lewis Holladay, of Orange. Dr. Bayard Carter, University, Va., presented a paper on "Toxemias of Pregnancy" and Dr. W. W. Waddell, also of University, read one on "Gastro-Intestinal Disturbances of Children." both of which brought forth considerable discussion. At the business meeting, Dr. J. N. Clore, of Madison, was elected president for the coming year, Dr. J. N. Barney, Fredericksburg, vice-president, and Dr. W. E. Bray, University, was re-elected secretary-treasurer. Following the meeting, supper was served at the Hunton Inn, after which a few after-dinner speeches were made and everyone seemed to have a good time. The next meeting is to be held in November.

The Virginia Society of Otolaryngology and Ophthalmology

Held its annual meeting on Saturday, May 3rd, at the Patrick Henry Hotel, Roanoke, Va., under the presidency of Dr. H. B. Stone, Roanoke. At this meeting, the secretary was instructed to send a telegram wishing a speedy recovery to Dr. Joseph A. White, of Richmond, who was unable to attend the meeting because of illness. Fifty dollars was voted by

the Society to the Walter Reed Memorial Commission, as a further donation to this cause. Dr. George W. Botts, Norton, and Dr. J. M. Holloway, Fredericksburg, were elected to membership in the Society. Following the presentation of several interesting papers, the following officers were elected: President, Dr. Fletcher D. Woodward, Charlottesville (retiring secretary); vice-president, Dr. Charles A. Young, Roanoke; secretary-treasurer, Dr. H. Grant Preston, Harrisonburg. Dr. H. B. Stone replaced Dr. C. M. Miller on the executive council. Richmond was selected for the 1931 place of meeting.

The University of Virginia Medical Society.

The March meeting of the University of Virginia Medical Society was held in the University of Virginia Amphitheatre. Dr. P. D. White, of Boston, addressed the Society, giving a most interesting and instructive resume of his experiences in the European Cardiac Clinics.

On the 21st of April the University of Virginia Medical Society had two interesting papers. Dr. James Kindred, of the Department of Histology, reviewed an experimental work that he has been carrying on, the title being "Cytologic Changes in the Kidney of a White Albino Rat Following Elongation of the Main Blood Vessel." The histology of these kidneys was described, sections having been taken up until ten weeks following operation.

Dr. Staige Blackford reviewed 100 cases of primary pneumonias which have occurred in the University of Virginia Hospital. This review will probably appear soon in the "VIRGINIA MEDICAL MONTHLY."

J. B. GRAHAM, M. D., *Secretary.*

Woman's Auxiliary, to the Medical Society of Va.

Richmond Auxiliary Active.

On May 7th, the Auxiliary to the Richmond Academy of Medicine held a card party in the ballroom of the Mosque for the benefit of the children's wards of the Dooley and St. Philips hospitals. The result was very gratifying as a nice sum of money was realized for carrying on this important piece of child welfare work. Mrs. W. Armistead Gills was general chairman of the party.

Another activity of the Auxiliary was helping in the Early Diagnosis Clinic for children, conducted by the Richmond Tuberculosis Association, May 12th-16th. The Clinic had an average daily attendance of sixty-five children, and the Auxiliary furnished about five of its members each day for the purpose of taking case histories and acting as a motor corps, taking the children to and from the Clinic.

Under the splendid leadership of Mrs. Charles Phillips, the *Hygeia* Committee is actively engaged in putting *Hygeia* in libraries, physicians' and dentists' offices and in the public schools.

The officers of the Woman's Auxiliary to the Richmond Academy of Medicine are: Mrs. N. Thomas Ennett, President; Mrs. W. Armistead Gills, Vice-President; Mrs. W. S. Beazley, Jr., Secretary; and Mrs. J. W. Hannabass, Treasurer.

Study Programs for County Auxiliaries.

In our May issue, page 121, we explained the STUDY PROGRAMS FOR COUNTY AUXILIARIES which have been prepared for the Woman's Auxiliary to the American Medical Association. These programs especially considered COMMON DEFECTS IN CHILDREN. Last month, the subjects discussed were "*Underweight and Malnutrition*" and "*Ears*." The following is a continuation of the subject with a discussion of other defects.

(Continued from page 122)

NOSE AND THROAT

PHYSICIANS ARE RECOGNIZING MORE AND MORE THAT AFFECTIONS OF THE UPPER RESPIRATORY TRACT IN CHILDREN ARE RESPONSIBLE FOR MANY OF THE CASES OF MALNUTRITION, FAILURE TO GROW, AND EVEN FOR SUCH SERIOUS DISORDERS AS TUBERCULOSIS AND RHEUMATISM.

The recognition of this fact is growing more and more important since more people are coming to live in congested districts with the ever-increasing amount of dust and dirt and smoke in the air. The increase in tonsillitis with the necessity of removing the tonsils, is largely due to this change in living conditions. Even hay fever and asthma are increasing because of the breathing in of irritant pollens and dust.

On the other hand, weak children rendered weak either by heredity or by improper feeding, or by acute disease, are more liable to

these infections and irritations than are strong and vigorous children. Therefore any campaign to improve the general health must look to the improvement of the condition of the nose and throat, as well as to the securing of good food, proper exercise and proper hours of sleeping.

Adenoids which obstruct the breathing and interfere with the circulation of the brain, thus making dullards of children who would otherwise be normal, are largely due to this breathing of air charged with dust and dirt and germs. The tonsils become diseased usually only after they have been filled up with such foreign material and thus rendered unfit to continue their work of moistening the inspired air. The cartilages of the nose become hypertrophied and bent because of this long continued irritation. Therefore, parents who exclaim against the modern tendency to cut out tonsils and adenoids and to correct nasal deformities should realize that it is because their children have been long exposed to bad air without taking measures to cleanse the air passages that such surgical work has become necessary.

The school physician finds relatively few normal noses and throats and he has learned that when he finds swollen glands, diseased chests and even some cases of protruding abdomen, he can secure almost miraculous cures by having the surgeon remove the diseased adenoids and tonsils. Similarly most cases of deafness in children are due to the extension of the inflammation starting in the nose and reaching backward into the eustachian tubes which lead to the ears. These tubes often become practically blocked. So, also, in running ears and earache, the first step to take is usually to cleanse the nasal passages of excessive adenoid tissue and to remove the tonsils.

The school physician realizes that it is hopeless to expect a cure of beginning tuberculosis, if the tonsils and adenoids are not cleaned up. The part played by INFECTIONS OF THE NOSE, SINUSES AND THROAT has been recognized by authorities on Diseases of the Heart. Heart Disease in children is frequently due to rheumatism, and the rheumatism of childhood is frequently due to such infections.

EYES

Tests made upon thousands of children of all ages in the United States have demonstrated that, of the 24,000,000 children in the

elementary and secondary schools of the United States, an enormous percentage has defective eyesight.

Many of these are so handicapped by their defective vision that normal, mental development is impossible and comfort and health suffers.

It has been proven over and over again that many cases of backwardness, and what has seemed like stupidity and laziness in growing children have been due entirely to poor eyesight or to poor hearing.

TEETH

Teeth have an important task to perform for the body, and unless they are kept in condition to perform that task, the health will suffer. Good digestion depends upon well-chewed food. Chewing is easy when the teeth are sound, or at least in good repair. But when they are decayed and sore, thorough chewing being painful is avoided, and digestion is interfered with.

Further, if the decayed spots are neglected, the pulps or nerves of the teeth may become infected and abscesses at the base of the roots may develop.

Teeth infected in this way may cause very serious troubles, the effects of which may last through the entire life.

We hear much these days about focal infections. Generally speaking a focal infection is a pocket of pus in some hidden part of the body whose only drainage is into the blood stream. (In many instances infected teeth or infected tissues around teeth do not necessarily have distinct collections of pus. Indeed there are certain pathogenic organisms producing infection that are not pus forming.) The constant seepage of this infective material into the blood stream usually destroys the body's normal resistance to disease germs, and may proceed so far as to produce an anemia and a general weakening of the body tissues.

If the organisms of this pus happen to be of a virulent sort they may invade the heart muscles, and produce heart disease; they may invade the joints and produce rheumatism, or they may even proceed so far as to produce a general septicemia or blood poisoning.

Sound teeth are, therefore, one of the child's precious possessions. The mother whose health is good and who eats the right sort of food before the child is born, usually endows the child with sound teeth to start life with.

This is the first and perhaps the most important step.

Not only before birth does food influence the structure of teeth, but after birth as well. Therefore bottle-fed babies must be given food containing the lime salts and vitamins in order to produce teeth of the proper size and density. Of course, the breast-fed baby gets the vitamins from the mother. If, therefore, the mother is healthy and eats a properly balanced diet, the baby teeth get a good start.

The next important step is the care of the first teeth.

The first teeth need as much care as the second set. If any of the first teeth are lost, the jaws do not develop normally and the second teeth are likely to be irregularly placed, and are, as a result more subject to decay. They are just as likely to become infected as the second set are. THEREFORE, DENTAL ATTENTION TO CAVITIES IS AS IMPORTANT WITH THE FIRST AS WITH THE SECOND TEETH.

And when permanent teeth are developed, parents should remember that the care given them will have an influence upon the health of the child to the last day of his life.

And last of all, just as the teeth influence the general health, so the general health affects the teeth. Decay of the teeth is not purely a local process to be avoided entirely by careful cleaning two or three times a day, but is itself influenced by the general bodily condition. The child should be taught the value to himself of good teeth and that to have them he must, in his youth, by proper food, sufficient sleep and the right kind of exercise, build up and develop vigor and good general health.

(To be continued)

The Truth About Medicine

In addition to the articles enumerated in our letter of March 28, the following have been accepted:

Mead Johnson & Co.

Mead's Dextri-Maltose with Vitamin B.

Parke, Davis & Co.

Ampoules of Pitocin 0.5 c.c.

NEW AND NON-OFFICIAL REMEDIES

Diphtheria Toxin-Antitoxin Mixture 0.1 L + Non-sensitizing (Sheep).—A diphtheria toxin-antitoxin mixture (New and Non-official Remedies, 1929, p. 360), each c.c. of which constitutes a single dose of diphtheria toxin neutralized with the proper amount of antitoxin produced from sheep. It is marketed in packages of three vials, each containing 1 c.c.; in packages of one vial containing 10 c.c.; in packages of one vial containing 30 c.c.; and in packages of thirty vials, each containing 1 c.c.,

United States Standard Products Co., Woodworth, Wis.

Tablets Tutocain No. 6.—Each tablet contains tutocain (New and Non-official Remedies, 1929, p. 51), 0.05 Gm. Winthrop Chemical Co., Inc., New York.

Ampoules of Pitocin 0.5 c.c.—Each ampule contains more than 0.5 c.c. of pitocin solution (Jour. A. M. A., July 13, 1929, p. 117). Parke, Davis & Co., Detroit.

Merthiolate Jelly 1:2,000.—It contains merthiolate (Jour. A. M. A., December 7, 1929, p. 1809), 0.05 per cent, eucalyptol 0.016 per cent, eugenol 0.016 per cent in a water-soluble base. Eli Lilly & Co., Indianapolis.

Merthiolate Ointment 1:1,000.—It contains merthiolate (Jour. A. M. A., December 7, 1929, p. 1809), 0.1 per cent in a petrolatum base. Eli Lilly & Co., Indianapolis. (Jour. A. M. A., April 19, 1930, p. 1237).

FOODS

The following products have been accepted as conforming to the rules of the Committee on Foods of the Council on Pharmacy and Chemistry of the American Medical Association:

Klim Powdered Whole Milk (Merrell-Soule Co.) It is whole milk from which all but about 2 per cent or less of the normal water has been removed by means of the spraying process of drying milk. It contains: fat, 28.0 per cent; protein, 26.7 per cent; lactose, 38.0 per cent; ash, 5.8 per cent; water, 1.5 per cent. Klim milk is used for supplementary feeding to be used according to a physician's formula.

Borden's Natural Flavor Malted Milk (The Borden Co., New York). It is a processed mixture of barley malt, wheat flour and whole milk, reduced to powdered form. The product contains: fat, 9.2 per cent; protein, 15.5 per cent; lactose, 13.5 per cent; maltose, 35.6 per cent; dextrin, 20.2 per cent; ash, 3.8 per cent; moisture, 2.2 per cent. It is easily digested.

Mellin's Food (Mellin's Food Co., Boston). It is a milk modifier. It contains: fat, 0.16; protein, 10.35; maltose, 58.88; dextrans, 20.69; soluble carbohydrates, 79.57; salts, 4.30; water, 5.62. Mellin's Food is a soluble, easily digestible dry extract, made from wheat flour, wheat bran, malted barley and potassium bicarbonate.

Mellin's Food Biscuits (Mellin's Food Co., Boston). They contain a large percentage of Mellin's Food. (Jour. A. M. A., April 12, 1930, p. 1145).

PROPAGANDA FOR REFORM.

Action of Phenolphthalein.—One should always think of the possibility of a phenolphthalein eruption when studying the etiology of a puzzling exanthem. As phenolphthalein is chiefly excreted into the intestine by means of the bile, and reabsorbed from the colon, there is a tendency for its action to continue for several days. Hence, its continued daily use may lead to ultimate overaction with diarrhea, abdominal pains, tenesmus and bleeding. (Jour. A. M. A., April 12, 1930, p. 1165).

Undulant Fever Bacterial Vaccine.—The Council on Pharmacy and Chemistry reports that the Jensen-Salsbery Laboratories, Inc., have presented Undulant Fever Bacterial Vaccine (Jensen-Salsbery) for consideration by the Council. This product is stated to be a physiologic saline suspension of *Brucella melitensis* (var. *abortus* 75 per cent, and *suis* 25 per cent). From an examination of the published reports the Council's referee came to the conclusion that this material does not offer adequate evidence for the usefulness of the product and that this form of treatment should be subjected to further con-

trolled clinical trial. The Council voted to publish its preliminary report and to postpone definite action on the question of accepting Undulant Fever Bacterial Vaccine (Jensen-Salsbery) while awaiting the development of further evidence of its therapeutic value. (Jour. A. M. A., April 26, 1930, p. 1304).

The Cutaneous Absorption of Mercury.—It requires little imagination to appreciate the uncertainties that must attend the problem of dosage when such a relatively insoluble substance as mercury is applied to the skin. The size of the particles, the nature of the adjuvant, the place of application and its conditions, and the vigor with which inunction is practiced are some of the complicating features. The assumption that only the mercury globules rubbed into the follicles are gradually absorbed had led to the clean inunction method proposed by Cole and his collaborators. Some indication of the efficacy of inunction procedures can be secured by estimation of the substance that is eliminated. This has been done and it was found that the amount of mercury which is absorbed and excreted after inunction is dependent directly on the concentration of the metal in the base—that is, 5, 25 and 50 per cent preparations show that the excretion is about in proportion to the concentration in the ointment used. Again, contrary to what many have assumed, colloidal mercury ointments showed no greater excretion of mercury than official old-fashioned mercury ointments of equal concentration in benzoinated lard. Furthermore, massive or intensive weekly inunctions of a 30 per cent mercurial ointment may lead to an equal or higher mercury excretion than the simple daily use of 50 per cent ointment or even certain types of intramuscular injection. (Jour. A. M. A., April 26, 1930, p. 1322).

Book Announcements

Normal Facts in Diagnosis. By M. COLEMAN HARRIS, M. D., Lecturer on Physical Diagnosis, New York Homeopathic Medical College and Flower Hospital; Assistant Visiting Physician, Flower Hospital, etc. And BENJAMIN FINESILVER, M. D., Lecturer on Diseases of the Nervous System, New York Homeopathic Medical College and Flower Hospital; Assistant Visiting Physician, Flower Hospital, etc., Philadelphia. F. A. Davis Company, 1930. Octavo of 247 pages. Illustrated with forty-two engravings, some in colors. Cloth. Price, \$2.50 net.

Uterine Tumors. By CHARLES C. NORRIS, M. D., Professor of Gynecology and Obstetrics and Director of the Department, University of Pennsylvania; Gynecologist and Obstetrician, Radiologic Department of the Philadelphia General Hospital; Gynecologist, Children's Hospital, Philadelphia, etc. Harper's Medical Monographs. Harper & Brothers, New York and London, 1930. 12 mo. of 251 pages. Illustrated. Leatherette. Price, \$3.00.

Merck's Index. Fourth Edition. **An Encyclopedia for the Chemist, Pharmist and Physician.** Giving Names and Synonyms; Source, Origin, or Mode of Manufacture; Chemical Formulas and Molecular Weights; Physical Characteristics; Melting and Boiling Points; Solubilities; Specific Gravities; Medicinal Action; Therapeutic Uses; Ordinary and Maximum Doses; Incompatibilities; Antidotes; Special Cautions; Hints on Keeping and Handling, etc., of the Chemicals and Drugs Used in Chemistry, Medicine and the Arts. Together

with an APPENDIX containing: Reactions of the More Important Alkaloids and Glucosides; Characteristic Reactions of Acids, Bases, Metals, and Salts; Table of Atomic Weights; Thermometric Equivalents; Specific Gravity Tables; Metric Conversion Tables; and Abbreviations. Merck & Co., Inc. Rahway, N. J. 1930. Octavo of 585 pages. Leatherette. Regular subscription price \$5.00, with a discount of 50% (\$2.50) to members of and those affiliated with the medical, chemical, pharmaceutical and allied professions.

Aesculapius. A One-Act Play. By BARBARA RING. Boston. Walter H. Baker Company. 1930. Pamphlet of 40 pages. Professional rates quoted upon application.

Clinical Features of Heart Disease. An Interpretation of the Mechanics of Diagnosis for Practitioners. By LEROY CRUMMER, M. D., Emeritus Professor of Medicine, University of Nebraska. Introduction by EMANUEL LIBMAN, M. D., Professor of Clinical Medicine, Columbia University. Second Edition, Revised and Enlarged. Paul B. Hoeber, Inc. New York. 1930. Octavo of 415-xv pages. Cloth. Price, \$4.00.

Minor Surgery. By ARTHUR E. HERTZLER, M. D., Chief Surgeon, Halstead Hospital, and VICTOR E. CHESKY, M. D., Chief Resident Surgeon, Halstead Hospital. Second Edition. St. Louis. The C. V. Mosby Company. 1930. Octavo of 602 pages. With 475 Illustrations. Cloth. Price, \$10.00.

Infant Nutrition. A Textbook of Infant Feeding for Students and Practitioners of Medicine. By WILLIAMS McKIM MARRIOTT, B. S., M. D., Professor of Pediatrics, Washington University School of Medicine; Physician in Chief, St. Louis Children's Hospital. St. Louis. The C. V. Mosby Company. 1930. Octavo 375 pages. Illustrated. Cloth. Price, \$5.50.

Certified Milk Conferences. Held in 1929. Annual Conference American Association of Medical Milk Commissions, Inc., and Certified Milk Producers' Association of America, Inc. Montreal, Canada, June 24-25, 1929. Annual Conference Metropolitan Certified Milk Producers, Inc., with the Certified Milk Producers' Association of America, Inc. New York, February 4, 1929. Constitution and By-Laws of the American Association of Medical Milk Commissions, Inc. Constitution and By-Laws of the Metropolitan Certified Milk Producers, Inc. Methods and Standards for the Production of Certified Milk. Octavo of 350 pages. Cloth.

Hospital Service in the United States. 1930. Ninth Presentation of Hospital Statistics by the Council on Medical Education and Hospitals of the American Medical Association. **HOSPITALS REGISTERED BY THE AMERICAN MEDICAL ASSOCIATION.** Reprinted from the Hospital Number of the *Journal of the American Medical Association*, March 29, 1930. Paper. 100 pages. Price, 50 cents.

Medical Education and Related Problems in Europe. By the COMMISSION ON MEDICAL EDUCATION. April, 1930. WILLARD C. RAPPLEYE, M. D., Director of Study. 215 Whitney Avenue, New Haven, Conn. Paper. 200 pages.

Methods and Problems of Medical Education. (Sixteenth Series). The Rockefeller Foundation, 61 Broadway, New York, N. Y. 1930. Paper. 251 pages.

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Editorial

Injection Treatment of Varicose Veins.

Varicose veins of the lower extremities give great discomfort. The incidence of the condition is widespread especially among working people; not only among this type but also in persons who have suffered injury to the veins in previous illness, such as complications of childbirth or infections. The term "varicose veins" is accepted by general use to apply to veins of the extremities, involving the internal saphenous. In this process, there is dilatation of the vein altering the endothelial lining and shortening or obliterating the valves, the outer coat becoming thickened. The process involves, chiefly, the superficial veins and creates an enlargement of the limb with more or less chronic discomfort and semi-invalidism. The patients suffer more or less constant discomfort and pain. They are conscious of a sense of weight and heaviness in the feet and legs. They may become victims of ulceration and hemorrhages. The use of bandages, elevation and elastic stockings of all sorts and styles have been resorted to in order to secure some relief from these nagging discomforts. Operations for removal of varicose veins have been generally adopted as the most complete and surest method of cure. Surgical treatment of the condition has tended to retard a general application of curative procedure to this affliction of mankind. Surgical treatment, however, it must be stated, remains in certain types of cases, as yet, the surest and most complete method of attacking the problem. But within the past few years, the so-called medical injection treatment of varicose veins has

come into popular favor with the profession. The practice has become so general that advocates of the treatment by injection are reporting series of cases in meetings; and pharmaceutical houses are "detailing" special preparations to be used in the office treatment.

It is interesting to note from a brief review of the literature that injection treatment, as now so widely adopted, had its inception from a treatment instituted by Pravaz in 1851, when he invented his syringe for use of treatment of aneurysm by the injection of ferric chloride. From that time to the present, in Europe, injection treatment of varicose veins became more and more used. Various methods have been used but a real step was made in 1911 when Professor Linser, of Tübingen, Germany, discovered that following the administration of mercuric chloride in the treatment of syphilis, veins became obliterated. He then adopted this method of direct obliteration of varicose veins and continued the method until 1923, when he sought a better and safer method by using 20 per cent of sodium chloride solution. Following this, or more or less coincident with it, Sicard, of Paris, used sodium salicylate. Genevrier used quinine dehydrochloride and urethane, and Kausch used invert sugar solution. This latter agent was adopted and proclaimed for favorable use by Professor Nobl. It is significant that in Europe, 48,000 cases have been treated during this period by this injection method; it has become more recently popular in this country as is shown by its adoption by Hayes, McPheeters, Bratrud, de Takats, Schussler, and Kilbourne and Logeheil, who have reported large series of cases.

Logeheil notes that in a survey of 4,607 operative cases, Kilbourne finds 1 death in each 250, while in 53,000 cases treated by injection, only 11 fatalities occurred and to these Kilbourne added two. This makes it worth while, in commenting on the adoption of this plan of treating varicose veins, to express a note of caution. There are some dangers and complications. A fatality from the use of a remedy which is given for relief of a disabling condition only is even more to be avoided than one following a life-saving effort. Physicians may receive the reports of the efficiency of this method with enthusiasm but it must be remembered that extreme care should be exer-

cised, particularly by those with limited experience in the technic. Pitfalls and complications may disappoint one in the results if no more serious result is met. Cases should be selected. Solution employed should be limited to one well accepted and recognized sclerosing-solution. Patients with diabetes, nephritis, and arteriosclerosis should not be treated by this method. Pregnant women should not receive the treatment. There were only seven deaths in about 53,000 cases treated, states McPheeters and Rice, making a low mortality of 0.0024 per cent. But, never-the-less, complications such as a pulmonary embolus may terminate the treatment in death. This occurred in four of the above collected cases; yet it is safe to say that this treatment has passed the experimental stage and may be placed in the category of rational treatment of varicose veins.

In the action of sclerosing drugs employed lies the secret of freedom from risk of emboli. A fibrotic clot is formed in veins injected. Irritating action of the sclerosis solution causes destruction of the intima. This is followed by a trabecular deposit of fibrin and blood platelets. This results in an adherent, dense, fibrous clot, which undergoes organization with connective tissues; a progressive retraction and obliteration of the vein occurs.

Now the nature of sclerosing drugs may be summarized by citing and commenting on a few. Bichloride of mercury was one of the first drugs used but has been given up because of the serious sloughing and severe toxicity of the drug. Sodium chloride is still in use in some clinics but has been abandoned by most physicians in private cases. There were severe cramps following the injections, also marked sloughing and other disadvantages. Sodium salicylate injection, introduced by Sicard, is used extensively in France. The usual treatment consists of 5 to 10 c.c. of 20 per cent, or 2 to 6 c.c. of the 25 to 40 per cent aqueous solution. There is pain—a burning pain in this method. If injected outside of the vein, by accident, sloughing occurs from this and other drugs. Sugar solutions are most popular and the safest. They cause little pain and are non-toxic and non-sloughing. Painful perivenitis rarely occurs. Invert sugar, the natural chemical combination of equal parts of dextrose and levulose with 3 to 5 per cent sucrose, resulting from hydrolysis of cane sugar, says Loge-
feil,

is the favorite solution now employed. Nobl has popularized its use and reports success in over 10,000 injections without a fatality. In Europe, the solution is dispensed under the name of calorose, and in America is known as invert sugar and dispensed in 10 c.c. sterile ampoules. The latter is in strength of 50, 60 and 70 per cent. Loge-
feil used 50 to 60 per cent invertose routinely. More recently, he has used a preparation known as invertose compound.

One may read with interest the reports and the publications on this subject. References in Loge-
feil's paper give one a wide range for following the progress of the treatment in this country and abroad. Practitioners proposing to undertake the study of the treatment may do well to pursue the publications herein noted.*

The technic of injection should be carefully planned and conducted. Experience begets safety and success. Learning by adherence to a well tried plan secures a higher degree of success. Loge-
feil gives several general rules that have been made as a result of his large experience. Large varices, he states, especially if long, should be injected first at the lowest point; never inject higher than the middle of the thigh. Varices of large size over the calf of the leg tend to develop perivenitis if a strong caustic solution is used, especially in large amounts. In ulceration, injection of "feeders" should come first. In large varices, 2 to 3 minims of sterile 1-1000 adrenalin solution to 20 c.c. of the strong invert sugar solution (60-70 per cent) is used.

The purpose of the technic is to get the solution in contact with the intima with the least dilution of blood. The patient should stand in order to mark the site of the distended veins; a rubber tourniquet is now applied above the points marked. Patient now lies on the table and skin is sterilized; a sharp sterile needle (18 to 24 gauge) is used for aspirating the blood and the blood is carefully "milked" from the vein for a few centimeters above and below the needle. Being sure that the needle is still in the vein, the solution (invert sugar solution) is injected slowly. From this brief and incomplete description, physicians who are not familiar with the technic may see the nature of the administration; while not difficult, it should be performed only after thorough study

*Loge-
feil. *Amer. Jour. Med. Sciences*, May, 1930, page 619.
McPheeters & Rice. *J. A. M. A.*, October 13, 1928, page 1090.

of the whole question and should be carried out along lines accepted as successful and safe. These conditions may be found in the study of such well presented papers as Logeheil who gives a summary of his observations in 500 cases and after administering the injection 5,000 times. Experience of such an operator may be wisely followed by the beginner.

News Notes

Resolutions Governing Program for Norfolk Meeting of State Society.

1. That at the next meeting the report of the House of Delegates be made at noon on Thursday, October 23, after which the meeting shall adjourn finally to an oyster roast;

2. That the clinics to be given on Tuesday afternoon, October 21, be divided into three (3) groups, conducted simultaneously, at different locations, and that notice of the place and time of the clinics be published in the "Monthly" in advance for the information of members;

3. That notices be sent to members, inviting them to submit titles of "voluntary" papers to be placed on the program, but that no paper be accepted unless the title with an abstract of the paper of 150 to 200 words, be sent to the Secretary by September 1;

4. That if the number of titles, with abstracts submitted, be in excess of the number necessary to make up a program, such additional titles of papers appear in the program to be read by title.

The above resolutions, governing the program for the next meeting of our State Society in Norfolk, were adopted unanimously at a joint meeting of the committees on Publication and Program and on Scientific Work and Clinics, held on April 25th. The minutes of this meeting appear on page 189 of this issue of the MONTHLY.

Medical College of Virginia Finals.

The Medical College of Virginia held its ninety-second Commencement Exercises May 31st to June 3rd, inclusive, in Richmond. These included the four schools of medicine, dentistry, pharmacy and nursing, with a total of about 200 graduates. The events started with Student Night on Saturday, May 31st, with dramatics in John Marshall High School Auditorium. The Commencement Sermon was on Sunday evening, by Rev. J. J. Scherer, Jr., D. D., at the First English Evangelical Lutheran Church.

Registration for the Alumni meeting began early Monday morning, June 2nd, and the Association held a business and scientific meeting in McGuire Hall of the College, starting at 10:30 A. M. A feature of this commencement was the unveiling at 1:00 P. M., of a bronze tablet in the Egyptian Building of the College—a gift of the Alumni Association—commemorating the distinguished service rendered the College and the medical profession by a small group of physicians, who eighty-five years ago made possible the erection of this, the oldest of the buildings connected with the College. This building was completed in 1845 and has been used continuously since that time. For a few years previous to the completion of this building, the College has been conducted in an old building which formerly stood at Main and Nineteenth Streets. A buffet luncheon to the Board of Visitors, Alumni, and Senior Classes, at Cabaniss Hall, followed these exercises. The Board of Visitors held a meeting in the afternoon, and at the same time there was a golf tournament between members of the faculty and the alumni. These were followed by the annual Alumni Dinner at Commonwealth Club.

The Final Exercises for this session were held at 3:30 P. M., Tuesday, June 3rd, at the Mosque Theatre. The principal address at this time was delivered by Dr. George E. Vincent, retiring president of the Rockefeller Foundation. On this occasion, diplomas were presented graduates in the various departments and hospital appointments for graduates in medicine were announced. The annual reception and dance in honor of the graduating classes was held at Commonwealth Club, commencing at 9 P. M., that evening.

There were ninety-five graduates in medicine, Hospital appointments announced at this time were as follows:

MEMORIAL HOSPITAL, RICHMOND, VA.—Drs. Harry Gains Butler, Culpeper; James Glenn Cox, Dugspur; John Wyatt Davis, Jr., Lynchburg; Frederick Oliver Fay, Richmond; Kester St. Clair Freeman, Hanover; Louise Fry Galvin, Richmond; Shockley De Witt Gardner, Goldsboro, N. C.; Thomas Lorimer Gemmill, Amburg; David Lemuel Harrell, Jr., Suffolk; William Thomas Pugh, Madisonville; Samuel Leonidas Rucker, Jr., Moneta; Claude Ernest Simons, Colerain, N. C.; Clinton Howard Whitehurst, Norfolk; Edward Holloway Williams, Rich-

- mond; and Julian Howard Yeatman, Nomini Grove.
- JOHNSTON-WILLIS HOSPITAL, RICHMOND, VA.—Drs. Ben Halsey Knight, Norfolk; Harold Lee Riley, Jr., Greenville, S. C.; and Kennon Christian Walden, Richmond.
- STUART CIRCLE HOSPITAL, RICHMOND, VA.—Drs. Walter Silas Lawrence McMann, Danville; Leslie Emerson Morrisette, Richmond; and Herman Montague Richardson, Richmond.
- ST. LUKE'S HOSPITAL, RICHMOND, VA.—Drs. Ernest Nicholas Phillips, Dalton, N. C.; and James Newton Williams, Richmond.
- TUCKER SANATORIUM, RICHMOND, VA.—Dr. Marsh McCall, Tazewell.
- ST. ELIZABETH'S HOSPITAL, RICHMOND, VA.—Dr. Paul Thomas McBee, Bakersville, N. C.
- JOHNSTON MEMORIAL HOSPITAL, ABINGDON, VA.—Dr. William Guy Justis, Richmond.
- U. S. MARINE HOSPITAL, NORFOLK, VA.—Drs. Llewellyn Lee Ashburn, Gonyon; and Robert Samuel Jacobs, Norfolk.
- ST. VINCENT'S HOSPITAL, NORFOLK, VA.—Drs. Macon Foscue Brock, Trenton, N. C.; Herman Frank Oppleman, Richmond; and Frank Francis Ramey, Richmond.
- PROTESTANT HOSPITAL, NORFOLK, VA.—Drs. Wilbert Enoch Butler, Richmond; and Samuel Byron Pope, Jr., Norfolk.
- U. S. NAVAL HOSPITAL, NORFOLK, VA.—Dr. Julius Cherry Early, Jr., Aulander, N. C.
- LEWIS GALE HOSPITAL, ROANOKE, VA.—Drs. Ulus Walter Massie, Spanishburg, W. Va.; and George Edmund Stone, Bedford.
- YOUNGSTOWN HOSPITAL ASSOCIATION, YOUNGSTOWN, OHIO—Dr. Harold Bay Ashworth, Moundsville, W. Va.
- BALTIMORE CITY HOSPITAL, BALTIMORE, MD.—Drs. Erwin Saul Berlin, Norfolk; and William Newcomer, Hagerstown, Md.
- CUMBERLAND HOSPITAL, BROOKLYN, N. Y.—Dr. Aaron Wilson Brown, Rochester, Pa.
- UNIVERSITY OF PENNSYLVANIA HOSPITAL, PHILADELPHIA, PA.—Drs. Calvin Howard Cain, Ettricks; Harold Joseph Harris, Wilkes-Barre, Pa.; and Thornton Seymore Jennings, Richmond.
- MOUNTAIN STATE HOSPITAL, CHARLESTON, W. VA.—Dr. Harry Boggers Arnold Carney, Charleston, W. Va.
- WALTER REED HOSPITAL, WASHINGTON, D. C.—Drs. John Randolph Copenhagen, Marion; James Lawrence Hager, Charleston, W. Va.; William Clarence Knott, Burlington, N. C.; and Edward Miller Sager, Petersburg.
- GEORGIA BAPTIST HOSPITAL, ATLANTA, GA.—Drs. Cyldre Crawford, Atlanta, Ga.; and Earl Van Tucker, Grifton, N. C.
- GALLINGER HOSPITAL, WASHINGTON, D. C.—Drs. Edwin Stanton Crisp, Washington, D. C.; and Richard Edgar Dunkley, Stuart.
- WHITE CROSS HOSPITAL, COLUMBUS, OHIO—Dr. Claude McClintic Dunlap, South Charleston, W. Va.
- U. S. MARINE HOSPITAL, NEW ORLEANS, LA.—Drs. William Sterling Doshier, Southport, N. C.; Marion Kirwan King, Haynesville; and Elbert Terrill Montgomery, Richmond.
- WISCONSIN GENERAL HOSPITAL, MADISON, WIS.—Drs. Van Mashburn Ellis, Durham, N. C.; and Emmett Vynston Richardson, Marion.
- JAMES M. JACKSON MEMORIAL HOSPITAL, MIAMI, FLA.—Dr. Enoch Raymond Fenton, Purcellville.
- YOUNGSTOWN CITY HOSPITAL, YOUNGSTOWN, OHIO—Dr. Lloyd Henry Gaston, Cumberland, Md.
- BEAVER VALLEY HOSPITAL, MARTIN, KY.—Dr. Orris Gearheart, Betsy Layne, Ky.
- HENRY FORD HOSPITAL, DETROIT, MICH.—Dr. James Roby Gudger, Davidson, N. C.
- C. & O. HOSPITAL, HUNTINGTON, W. VA.—Drs. Ivan Richmond Harwood, Huntington, W. Va.; Edwin Jacob Humphrey, Jr., Belleville, W. Va.; and Paul Dorsey Ketchum, Wayne, W. Va.
- RIVER CREST SANATORIUM, ASTORIA, LONG ISLAND, N. Y.—Dr. John Cramer Kindred, Astoria, N. Y.
- CITY MEMORIAL HOSPITAL, WINSTON-SALEM, N. C.—Drs. Clifford Whitefield Lewis, Beaufort, N. C.; and Elmer Richard Moorman, Roanoke.
- PROVIDENCE HOSPITAL, WASHINGTON, D. C.—Drs. Joseph Raymond B. Hutchinson, Washington, D. C.; and Delbert Thornton Saffer, Aldie.
- WATTS HOSPITAL, DURHAM, N. C.—Dr. Lonnie Carl Liles, Wendell, N. C.
- E. A. HORTON MEMORIAL HOSPITAL, MIDDLETOWN, N. Y.—Dr. John Thorpe Metcalf, Roanoke.
- MERCY HOSPITAL, ALTOONA, PA.—Dr. Mary Mackey Miller, Portsmouth.
- CONENAUGH VALLEY MEMORIAL HOSPITAL, JOHNSTOWN, PA.—Dr. Sigmund Newman, Richmond.
- UNIVERSITY HOSPITAL, ANN ARBOR, MICH.—Dr. Zenas Barnard Noon, Nogales, Ariz.

STATE PRISON HOSPITAL, RALEGH, N. C.—Dr. Joseph Evans Osborne, Shelby, N. C.

ST. ELIZABETH'S HOSPITAL, WASHINGTON, D. C.—Drs. James Brooke Pettis, Richmond; Edward Franklin Reaser, Huntington, W. Va.; and Orin Ross Yost, Kimball, W. Va.

BECKLEY HOSPITAL, BECKLEY, W. VA.—Dr. Matthew Murrill Ralsten, Charleston, W. Va.

GLENWOOD PARK SANATORIUM, GREENSBORO, N. C.—Dr. Robert Stuart Roberson, Greensboro, N. C.

DAVIS HOSPITAL, STATESVILLE, N. C.—Dr. Lloyd Roosevelt Shaw, Harmony, N. C.

OHIO VALLEY HOSPITAL, WHEELING, W. VA.—Dr. Carl Fritz Shelton, Logan, W. Va.

NORTH CAROLINA BAPTIST HOSPITAL, COLUMBIA, N. C.—Dr. Charles Gordon Spivey, Asheville, N. C.

ERLANGER HOSPITAL, CHATTANOOGA, TENN.—Dr. William George Stephenson, Chattanooga, Tenn.

GRASSLANDS HOSPITAL, WESTCHESTER COUNTY, N. Y.—Dr. Meyer Vitsky, Richmond.

KINGS COUNTY HOSPITAL, BROOKLYN, N. Y.—Dr. Hugh Alfred Watson, Boone, N. C.

SINAI HOSPITAL, BALTIMORE, MD.—Dr. Louis Ervine Wice, Petersburg.

PENNSYLVANIA HOSPITAL, PHILADELPHIA, PA.—Dr. Ennion Skelton Williams, Richmond.

HIGHSMITH HOSPITAL, FAYETTEVILLE, N. C.—Dr. Stephen Glenn Wilson, Newton Grove, N. C.

CHARLESTON GENERAL HOSPITAL, CHARLESTON, W. VA.—Dr. John Breckenridge Woodville, Jr., Lansing, W. Va.

Other members of the graduating class in medicine are:

Dr. John William Levis, Chicago, Ill.

Dr. James Stanley Liverman, Woodland, N. C.

Dr. Harry Eugene Macdonald, Jr., Bangor, Maine.

Dr. Nathan William Newman, Richmond.

State Society Meeting.

Arrangements are proceeding splendidly for the sixty-first annual meeting of the Medical Society of Virginia in Norfolk, October 21st, 22nd and 23rd. In planning vacations, members are urged to save time to attend this meeting, as it promises much of interest. Dr. Charles R. Grandy, of Norfolk, is this year's president, and has invited Dr. W. S. Thayer,

Baltimore, and Dr. David Lyman, New Haven, Conn., to present special papers at this meeting.

The local committee of arrangements is as follows:

Dr. W. L. Harris, Chairman.

Dr. R. L. Payne, Scientific Exhibits.

Dr. F. C. Rinker, Commercial Exhibits.

Dr. E. T. Hargrave, Finances.

Dr. Claiborne Willcox, Automobiles.

Dr. E. C. S. Taliaferro, Golf.

Dr. F. H. Redwood, Entertainment.

Dr. S. B. Whitlock, Hotels.

Mrs. W. P. McDowell, Ladies.

Requests were recently sent presidents of the various component societies, to appoint or elect delegates and alternates, so we trust each local society will arrange to have full representation in the House of Delegates.

Mental Hygiene Congress.

The First International Congress on Mental Hygiene, held in Washington, D. C., May 5th to 10th, was, as had been anticipated, a successful achievement in the promotion of the mental hygiene movement in this country and throughout the rest of the world. It would be a mere gesture to attempt to give in these notes an outline of the work of the Congress or even to mention the various phases of mental hygiene presented by the large number of eminent psychiatrists and mental hygienists there from this country and the fifty-three other countries represented on the program. In previous recent issues of the VIRGINIA MEDICAL MONTHLY brief mention indicated the subjects that would be discussed at the Congress.

Reports by personal representatives from the United States, Great Britain, Canada, France, Germany, Italy, Japan, Switzerland, South American countries, and every other country advanced in scientific accomplishments, and some that were not so advanced, gave an intelligent conception of the status of mental hygiene and psychiatry in these respective countries. On these reports, the discussions and the formal addresses was found a basis on which to formulate the activities of mental hygiene in the future. Before the opening of the Congress all the principal papers had been printed and were distributed to the members so as to give each one an opportunity to read any given paper before it was presented. Discussion was thereby made more valuable. The proceedings will be published and distributed

to members of the Congress and will, of course, be available to others. The work will be a voluminous and valuable store-house of knowledge of mental hygiene furnished by some of the most eminent authorities of the world. The exhibit room at the Congress gave some idea of the enormous literature on mental hygiene already published and available, especially through the National Committee on Mental Hygiene under whose auspices the Congress was organized and so well conducted.

The next International Congress on Mental Hygiene will be held three years hence in Paris. During the Congress the twenty-second anniversary of the founding of the first mental hygiene society in the world—the Connecticut State Society—was celebrated by the organization of the First International Committee for Mental Hygiene. The charter members of the new organization were drawn from the countries whose representatives took part in the Congress. This new organization is another effort in the prevention of mental disease and in constructive mental health. Another chapter in mental hygiene has been written. More history of modern psychiatry, medicine and human welfare has been made.

Stating it in a general way, the main objectives of the Congress were to collect information from various reliable sources and give the world the benefit of it, to concentrate every possible effort on the prevention of mental disorders of every grade and kind, and to promote the highest order of medical and nursing service for the mentally sick, and to point the way to the attainment and maintenance of the highest possible standard of mental health.

The Congress will, no doubt, result in further stimulating interest and activity in every part of the wide field of mental hygiene throughout this country, including, of course, our own state.

W. F. D.

Doctors Attend Post-Graduate Clinics at Virginia Medical Schools.

A large number of doctors from all over Virginia and adjoining states attended the post-graduate clinics held by the University of Virginia, Department of Medicine, and the Medical College of Virginia, last month, in conjunction with the Department of Clinical Education of the State Society. Clinics were held at each school and demonstrations were

given covering many branches of medicine and surgery.

Those registering for the clinics at the UNIVERSITY OF VIRGINIA, May 1st-3rd, are:

Drs. Bernard Barrow, R. 5, Blackstone; C. D. Bennett, Chatham; C. D. Barksdale, Sutherland; A. C. Byers, Harrisonburg; H. L. Baptist, Ivy Depot; J. N. Barney, Fredericksburg; D. P. Bowman, Crimora; E. M. Chitwood, Wytheville; J. R. Chitwood, Ivanhoe; John E. Cole, Fredericksburg; N. M. Canter, Harrisonburg; J. C. Coulter, Charlottesville; W. O. Cox, St. Paul; E. A. Pole, Hot Springs; E. D. Davis, Standardsville; W. B. Fowlkes, Danville; Chas. M. Fox, Monterey; Chas. R. Grandy, Norfolk; R. N. Garnett, Danville; S. E. Gunn, Hopewell; D. T. Gochenour, Stuarts Draft; J. C. Harshbarger, Harrisonburg; Percy Harris, Scottsville; H. T. Hawkins, Waynesboro, L. F. James, Richmond; E. C. Kidd, Lovington; W. L. Kabler, Lynchburg; W. A. Kyger, Free Union; J. J. Neal, Danville; J. A. Owen, Turbeville; R. L. Page, Batesville; M. J. Payne, Staunton; T. E. Patterson, Ransoms; H. W. Porter, Louisa; Llewellyn Powell, Alexandria; B. F. Randolph, Roseland; Alex. F. Robertson, Staunton; B. A. Rice, Forest; J. L. Rawls, Suffolk; H. S. Shelton, Culpeper; T. W. Sims, Eheart; W. A. Smith, Altavista; W. O. Smith, Altavista; B. E. Strode, Richmond; R. M. Shelton, Unionville; S. W. Selden, Kents Store; J. W. R. Smith, Charlottesville; J. R. Shacklett, Harrisonburg; F. L. Thurman, Buena Vista; J. B. Tuttle, Craigsville; J. F. Thaxton, Tye River; Lee Taliaferro, Madison Mills; F. A. Ward, Suffolk; R. A. Warren, Hot Springs; F. J. Wright, Petersburg; O. R. Yates, Suffolk, and J. B. Banks, Charleston, W. Va.

Those registered for the Clinics at the MEDICAL COLLEGE OF VIRGINIA, May 13th-14th, are:

VIRGINIA: Drs. D. C. Boatwright, Marion; G. B. Barrow, Staunton; Bernard Barrow, R. 5, Blackstone; J. C. Blanton, R. 5, Richmond; R. D. Bates, Newtown; Major Allen J. Black, Richmond; B. L. Carleton, Newport News; Clarence Campbell, Sparta; E. C. Cobb, Ruther Glen; R. M. DeHart, Floyd; W. F. Drewry, Richmond; R. H. Fuller, South Boston; C. E. Foley, Front Royal; J. D. Hagood, Clover; H. H. Hill, Madison; R. L. Hillman, Emory; L. C. Haynes, Mt. Jackson; F. M. Howell, Hopewell; R. L. Hudnall, Beverlyville; R. T. Hawks, Carson; John S. Horsley, Jr., Richmond; L. H. Hoover, Clarksville;

M. A. Johnson, Jr., Roanoke; L. F. James, Richmond; Chas. H. Lupton, Norfolk; F. H. Lee, Richmond; John A. B. Lowry, Crewe; C. F. Manges, Blacksburg; Hunter McGuire, Winchester; E. B. Nuckols, Cumberland; W. M. Phipps, Hopewell; E. W. Perkins, Petersburg; H. Ward Randolph, Richmond; G. H. Reese, Petersburg; J. M. Shackelford, Martinsville; J. B. Tuttle, Craigsville; Chas. R. Woolwine, Jr., Blacksburg; R. M. Wilson, Richmond; J. J. Waff, Shenandoah; Carrington Williams, Richmond; W. R. Warriner, Crewe; F. J. Wright, Petersburg; E. W. Young, Petersburg.

WEST VIRGINIA: Drs. W. P. Bittinger, Summerlee; V. T. Churchman, Jr., Charleston; A. D. Ferrell, Ronceverte; P. P. Pharr, Hinton; S. W. Price, Scarborough; A. B. Spahr, New Hall.

NORTH CAROLINA: Drs. E. S. Boice, Rocky Mount; J. S. Bradsher, Stovall; Rigdon Dees, Greensboro; R. B. Groves, Lowell; Alex. H. McLeod, Aberdeen; J. W. Wilkins, Mt. Olive.

MARYLAND: Dr. Henry S. Wailes, Salisbury.

MINNESOTA: Dr. William J. Mayo, Rochester.

University of Virginia Medical News.

Dr. Frank A. Stahl, retired obstetrician of Chicago, visited the Medical School on May 19th.

At the recent meeting of the American Association of Anatomists, Dr. H. E. Jordan was elected the Association's representative on the Commission for the Standardization of Biological Stains.

Dr. E. P. Lehman, Professor of Surgery and Gynecology, addressed the Tri-State Society of Ohio, Kentucky and West Virginia, meeting at Huntington, W. Va., on May 15th, on the subject of "Our Changing Conception of Inflammatory Disease of the Gall-Bladder."

Dr. C. C. Speidel, Associate Professor of Anatomy, was awarded the President and Visitor's Research Prize of \$100.00, at the annual initiation exercises of the Society of Sigma XI, on May 16th. The subject of Dr. Speidel's publication is "Studies of Hyperthyroidism, VI. Regeneration Phenomena in Thyroid Treated Amphibian Larvae."

Dr. Dudley C. Smith, Associate Professor of Dermatology and Syphilology, was one of the two faculty members initiated into the

Sigma XI honorary scientific fraternity on May 17th.

On May 25th and 26th, Dr. H. E. Jordan, Professor of Histology and Embryology, attended the meetings of the Advisory Board of the Wistar Institute of Anatomy in Philadelphia, in his capacity of Associate Editor of the *Journal of Morphology and Physiology*.

At the recent meeting of the Virginia Academy of Science in Lynchburg, Drs. H. E. Jordan and C. C. Speidel were awarded the Academy's Annual Research Prize of \$50.00 for their joint paper on "Blood Formation in the African Lung Fish."

Dr. C. C. Speidel will represent the Medical School at the Second International Congress of Anatomists, meeting in Amsterdam the middle of August. He will read a paper before the Congress prepared jointly with Dr. H. E. Jordan.

Mr. C. P. Loran, Secretary-Manager of the Southern Medical Association, visited the University on May 12th.

Dr. Fletcher Woodward, Associate Professor of Otolaryngology, was elected President of the Virginia Society of Otolaryngology and Ophthalmology at the meeting in Roanoke on May 3rd. On May 27th to 29th Dr. Woodward attended the meetings of the American Bronchoscopic Society and the American Rhinological, Laryngological and Otological Society at Atlantic City.

Dr. Bayard Carter, Associate Professor of Obstetrics and Gynecology, and Dr. W. W. Waddell, Assistant Professor of Pediatrics, read papers before the meeting of the Piedmont Medical Society at Madison on May 16th. Dr. Waddell's subject was "Diarrhea in Children." Dr. Carter spoke on recent developments in obstetrics. Dr. W. E. Bray, Professor of Clinical Pathology, was re-elected Secretary-Treasurer of the Society.

Dr. Chester Jones, of the Harvard Medical Faculty and a member of the Visiting Staff of the Massachusetts General Hospital, of Boston, recently spent several days at the University. On Friday morning, May 9th, he conducted a clinic for the fourth year medical

students. at which he demonstrated and discussed several cases with gastro-enterological difficulties.

On May 12th Dr. Henry B. Richardson, of the Russell Sage Institute and Associate Professor of Medicine at New York University, visited the Medical School. He addressed the first year class on the subject of "Metabolism of the Tubercle Bacillus."

On Saturday, May 24th, the Baltimore-Washington Dermatological Society held a meeting at the University. The program consisted of a clinic, an address by Dr. Wiedman, Professor of Cutaneous Research at the University of Pennsylvania, and a dinner at the Farmington Country Club. Dr. Wiedman spoke on the "Clinico-Pathological Aspects of Dermatophytosis."

The John Phillips Memorial Prize.

The American College of Physicians announces the John Phillips Memorial Prize of \$1,500.00, to be awarded for the most meritorious contribution in Internal Medicine and Sciences contributing thereto, under the following conditions:

(1) The contribution must be submitted in the form of a thesis or dissertation based upon published or unpublished original work.

(2) It must be mailed on or before August 31, 1930, to the Executive Secretary of the American College of Physicians, Mr. E. R. Loveland, 133-135 S. 36th Street, Philadelphia, Pa.

(3) The thesis or dissertation must be in the English language, in triplicate, in type-written or printed form, and the work upon which it is based must have been done in whole or in part in the United States or Canada.

(4) The recipient of the prize would be expected to read the essay at the next Annual Meeting of the College, after which he would be officially presented with the prize by the President.

(5) The College reserves the right to make no award of the prize if a sufficiently meritorious piece of work has not been received.

(6) The announcement of the Prize winner will be made not later than two months before the Annual Meeting.

This prize has been founded by the College as a memorial to Dr. John Phillips, for many

years a regent of the College, and always interested in stimulating medical research. He met his death in the Cleveland Clinic disaster, last year.

Veterans' Hospital at Fort Lyon, Colorado. Has Place for Specialist in Pathology.

The United States Civil Service Commission has announced that the Veterans' Bureau Hospital at Fort Lyon, Colo., is in need of a medical officer to serve as specialist in pathology. Those who are interested should write to the United States Civil Service Commission, Washington, D. C., or to the Secretary of the Thirteenth United States Civil Service District, Denver, Colo., and ask for examination announcement No. 51 and application blanks Nos. 2600 and 2398.

In addition to the above, the U. S. Civil Service Commission, Washington, D. C., announces open competitive examination for associate medical officer (pathology), applications to be rated as received by the Commission, until June 30th.

Aubrey H. Straus,

Consulting bacteriologist, announces the removal of his private laboratory to larger quarters, at 616 West Grace Street, Richmond, Va. He and his staff are prepared to handle all types of bacteriological work, and give day and night service.

Do You Know Your Pap-Spoons?

This year, Mead Johnson & Company's exhibit at Detroit will feature a unique exhibit of historical interest to every physician who has a baby or who feeds babies.

Through the courtesy of Dr. T. G. H. Drake, of the University of Toronto, there will be an exhibit of ancient feeding spoons, jugs, boats and nursing bottles, some of which date back to 500 B. C., gathered from various parts of the world.

At the Detroit Session of the A. M. A., June 23rd-27th, please do not fail to inspect this fascinating historical collection, never before exhibited. Booths 292, 293, and 294.

Dr. J. Allison Hodges,

Richmond, president-elect of the Medical Society of Virginia, was the guest of honor at the banquet given by the Virginia State Dental Association during their meeting in Richmond, May 12th-14th.

Playgrounds in Real Estate Subdivisions.

The setting aside of recreation grounds for the use of home owners in new residential de-

velopments has assumed the proportions of a national movement, according to a recent report of the Playground and Recreation Association of America. Nearly 300 subdivisions in 34 States are listed as having established such playgrounds, and nearly 150 others are known to have such areas but were not included with the 300 because of insufficient data. In many cases the grounds have been deeded to municipalities or townships and are free from taxes. **Married.**

Dr. Francis Ernest Hinchman and Miss Justina Veronica Koss, both of Richmond, June 3rd.

Dr. Charles E. Cheek, Fuquay Springs, N. C., and Miss Eva Agnes Babcock, Chase City, Va., May 15th.

Dr. George B. Arnold, assistant resident physician at the Virginia State Epileptic Colony, and Miss Frances Williamson, Lynchburg, Va., May 21st. Dr. Arnold graduated from the Medical Department of the University of Virginia in 1927.

Annual Report of National Society for Prevention of Blindness.

A record of steady achievements in the campaign to conserve vision is outlined in the fifteenth annual report of the National Society for the Prevention of Blindness. The report traces the interest of the Society from the general health of the expectant mother, even before the baby's birth, on through successive stages of the child's life until it has been given every opportunity for clear vision which modern science affords.

An increase of forty-five "sight-saving classes" within the last year is also noted. There are now 350 of these classes for the education of children with seriously defective vision in ninety-five cities. The Society estimates that approximately 5,000 such classes are needed in the United States. To train teachers for this work, special courses will be given in the coming summer months at Columbia University, the University of Chicago, the University of Cincinnati, and the State Teachers' College in Buffalo.

Renewed research into the study of trachoma was given through a five year program of investigation started recently by the Medical School of Washington University, St. Louis, and financed by the Commonwealth Fund. The Society also assisted several other agencies in a study of the incidence of trachoma among the Chippewa Indians of Minnesota.

About 725,000 pieces of literature were circulated during 1929, 307 lectures were given, and thirteen radio talks.

Dr. Francis R. Crawford,

Who has been located at Farmville, Va., and has been a member of the staff of the Southside Community Hospital, has gone to China, where he is connected with the Presbyterian Hospital, at Kashing.

Cost of Medical Care.

Seventy dollars per family was the average cost of medical care during a recent six months' period for over 3,000 workingmen's families selected for study from the insured list of the Metropolitan Life Insurance Company. The total expenditure for these families during this period was \$230,907. The expenditures for the larger families averaged less per capita than for the smaller families, and one-fifth of the families expended nearly two-thirds of the total.

The Greater New York Committee on Health Examination

Has published in book form the report of the activities and an evaluation of the results of the campaign for health examination conducted by the Greater New York Committee on Health Examination, held October 15th through December 31st, 1929. This report tells the story of the campaign conducted by the Greater New York Committee representing the Five County Medical Societies—how it was planned and executed and covers in detail the various activities. This campaign was the first organized effort on the part of the medical profession in the interest of health examination and proved to be very successful.

Dr. Iago Galdston, 244 Madison Avenue, New York City, is secretary of the Committee.

Doctors Interested in Work on Blind.

In recognition of their work with the blind, Drs. R. H. Courtney, Thos. E. Hughes, Powell Williams, and Emory Hill, all of Richmond, Va., have been elected honorary members of the Richmond Chapter of the Virginia Association of Workers for the Blind.

Dr. Alexander G. Brown, Jr.,

Richmond, Va., was elected a delegate from the Virginia Society to the National convention of the General Society of Colonial Wars, held in Hartford, Conn., May 22nd-24th.

Dr. Lawrence T. Royster,

University, Va., will preside over the meeting of the Association of American Teachers

of the Diseases of Children, which is to hold its twenty-fourth annual convention at Hotel Fort Wayne, Detroit, Mich., June 24th.

How Many Children Have Defective Vision?

Eye trouble was found in one-fifth of nearly 1,000 children from twenty-one kindergartens and nurseries in Manhattan and Brooklyn during a four-year study of the vision of children of preschool age by the National Society for the prevention of Blindness. Twelve of the city's eye specialists gave their services to the society for the study.

Dr. I. R. Wagner,

Member of the Medical Society of Virginia, has been transferred from the U. S. Veterans' Hospital, Tucson, Ariz., to the U. S. Veterans' Hospital, Fort Lyon, Colo., where he is medical officer in charge.

Ice Cream as an Essential in the American Diet.

This fact is forcibly demonstrated by figures published in a bulletin issued by the U. S. Department of Agriculture. It is stated that about 6,000,000,000 pounds of milk are utilized annually in the United States in the commercial manufacture of ice cream which was once regarded as a luxury but which now holds a well-established place in the American diet. In this connection, Dr. E. V. McCollum, of Johns Hopkins University, a leading scientist in nutrition, says, "We have constantly emphasized the importance of drinking more milk . . . The more frequent serving of ice cream at the family table is one of the easiest ways of getting milk into the diet."

Statistics show that the per capita consumption of ice cream in the United States in 1905 was 1.04 gallons, and in 1928 it was 2.9 gallons, or nearly three times as much. In 1927, consumption in nineteen of the states was more than 2.9 gallons per person.

Dr. Holcombe H. Hurt

Has discontinued practice in South Boston, Va., and is resuming his fellowship in surgery at the Mayo Clinic, July the 1st. His family will accompany him to Rochester.

Re-Commissioned to State Board of Medical Examiners.

At the last meeting of the Medical Society of Virginia, the House of Delegates voted to nominate to the Governor, at the proper time, the ten present incumbents representing our Society. Governor Pollard has recently issued commissions to these as follows:

1st District—Dr. J. H. Ayres.

2nd District—Dr. P. St. L. Moncure.

3rd District—Dr. H. U. Stephenson.

4th District—Dr. Fletcher J. Wright.

5th District—Dr. I. C. Harrison.

6th District—Dr. J. W. Preston.

7th District—Dr. P. W. Boyd.

8th District—Dr. Lewis Holladay.

9th District—Dr. F. H. Smith.

10th District—Dr. A. F. Robertson.

Dr. Richard B. Easley,

After several months in Charleston, W. Va., has returned to Richmond, and opened offices at 408 Professional Building. He will limit his work to neurology and psychiatry. Dr. Easley is a member of the class of '26, Medical College of Virginia.

Comparison of Negro With White Infant Mortality.

A report has recently been issued by the U. S. Public Health Service on a study based on negro and white infant mortality rates in the urban and rural areas of a group of Northern and Southern States, in urban and rural Maryland, and in four cities, viz., Richmond, Va., Baltimore, Md., Charleston, S. C., and New Orleans, La.

In every area studied, negro infant mortality rates were higher than the corresponding rates for white infants, this difference being most marked in the urban areas of the South. The lowest negro rates were found in the rural South and the highest in the Southern cities, but, on the whole, infant mortality among the negroes shows trends similar to those shown by infant death rates among the white populations of the same communities. In two cities, Baltimore and Richmond, negro infant mortality has declined more rapidly than that of the white population.

Negro infant death rates are higher than the rates for white infants for every cause except four contagious diseases. Deaths from respiratory diseases, all forms of tuberculosis, and gastro-intestinal diseases were considerably more frequent among negro than among white infant.

Oliver Rea Scholarship Fund.

Practicing physicians of Allegheny County, Pennsylvania, are to be given preference in the award of scholarship aid under the terms of the Oliver Rea Scholarship Fund, according to announcement made last week by the Directors of the New York Post-Graduate Medical School and Hospital, of New York City, which has this fund at its disposal. The

donor of the fund is a Pennsylvanian and, in the original deed of gift, she has specifically petitioned that, other things being equal, priority in the scholarship awards be given physicians from her home county.

The fund is designed to promote advanced medical education and research in the United States, to stimulate and train teachers in medicine and surgery and, in other ways to increase efficiency in the practice of medicine and surgery. There are also to be established scholarships to defray the expense in part or in full, of the tuition of physicians at the New York Post-Graduate Medical School and Hospital and a part of the income is to be used to provide salaries for scientific workers in medicine and surgery, or to establish prizes for valuable contributions to medical literature, or, in any other manner to promote post-graduate education.

This committee specifically charged with the distribution of these scholarship aids consists of Dr. Ludwig Kast, Chairman, Dr. James F. McKernon and Dr. Edward H. Hume, all of New York, and all members of the Board of Directors of the New York Post-Graduate Medical School and Hospital.

Health Care for the Preschool Child in England and Wales.

"It is grossly uneconomic to allow the health and stamina of infants to deteriorate till 5 years old and then to spend large sums of money in trying to cure them between the ages of 5 and 15," says a joint circular to maternity and child-welfare and local education authorities of England and Wales, issued by the Ministry of Health and the Board of Education of Great Britain. Between a fourth and a third of the 5-year-olds entering school each year have been found to need medical attention before they can profit by the education provided for them, largely as a result of neglect after supervision by infant-welfare centers and visiting nurses has ceased. The circular appeals for the provision of systematic health visiting for children between the ages of 2 and 5 years and for their free examination and treatment if the parents cannot afford to pay a private physician.

The American Gynecological Society

Held its annual meeting at Hot Springs, Va., May 19th-21st, under the presidency of Dr. Charles C. Norris, of Philadelphia. The membership of this organization is limited to

115 members. Officers elected for the ensuing year are: President, Dr. William P. Graves, Boston; treasurer, Dr. Fred L. Adair, Chicago; secretary, Dr. Floyd E. Keene, Philadelphia. The two last named officers were re-elected.

Graduate Nurses' Association of Virginia.

The thirtieth annual convention of this Association at Virginia Beach, May 22nd-24th, was the largest in its history. The program covered probably a wider range of topics of general interest than usual to the medical profession and the public. Miss Virginia Thacker, Roanoke, president, presided.

Mental Hygiene constituted one of the prominent features of the program, as follows:

"Mental Hygiene in Nursing" by Dr. William F. Drewry, Director, State Bureau of Mental Hygiene, Richmond.

"Psychology in Pediatrics" by Dr. Harvie DeJ. Coghill, Director, Children's Memorial Clinic, Richmond.

"Nursing in Mental and Nervous Diseases" by Miss Louise N. Moss, R. N., Superintendent Westbrook Sanatorium, Richmond.

"Mental Hygiene in Nursing Education" by Dr. Marshall J. Payne, Staunton.

"Mental Hygiene in Convalescence" by Dr. Beverley R. Tucker, Tucker Sanatorium, Richmond.

These papers indicate a desirable increasing interest in a field of activity in which the nurse is an essential factor. One of the speakers at the meeting said that "if there is ever to be material reduction made in mental disorders and a more general building up of positive mental health, and I believe there will be in reasonable time, it will be accomplished mainly by an informed medical profession aided by its natural allies, one of the chief of which is the trained nurse."

The following were elected officers for the current year: President, Miss Emma Harlan, Charlottesville; vice-presidents, Miss Blanche Webb, Norfolk, and Miss Ruth Norton, Norfolk; treasurer, Mrs. Jessie Faris (re-elected), Richmond; secretary, Miss Mary Stillwell (re-elected), Roanoke. The board of directors includes Miss L. L. Odom, Norfolk; Miss Louise M. Oates, University; and Miss Virginia Thacker, Roanoke. The latter replaces Miss Martha Baylor, Roanoke, whose term of office expired.

Another Orphan Asylum Changes Institutional to Foster-Home Care.

After two years' study and experiment, the Chicago Orphan Asylum has decided to sell its big building which houses 130 children and to find foster homes for the children who come under care, as fast as suitable family homes become available. Five or six scattered units, each caring for not more than 12 children, are to be established, for those who need a period of residence in a controlled environment. Another unit is to be used for the reception of new children and for administrative offices, and still another will care for unadjusted children who need intensive study and training before permanent plans can be made for them.

Dr. Caleb S. Stone, Jr.,

Who has just completed a year as resident on surgery at the University Hospital, University, Va., has taken up his residence in Farmville, Va., where he will limit his work to the practice of surgery. Dr. Stone is a graduate in medicine of the Washington University in St. Louis.

Dr. Micajah Boland,

Commander (M. C.), U. S. Navy, has been transferred from the U. S. S. *Florida* to the U. S. Naval Training Station, Great Lakes, Ill. Dr. Boland is a member of the Medical Society of Virginia and was for a number of years stationed in Virginia waters. He will enter upon his new duties June 1st.

In Memoriam—Dr. Brydon.

The Echo, monthly magazine published by the Bureau of Child Health of the Virginia State Department of Health, has dedicated its May issue to Dr. Mary Evelyn Brydon. The numerous tributes, in this magazine, paid Dr. Brydon and her child welfare work by co-workers and by the various organizations through which and with which she labored, tell only too well the story of her splendid work which has attracted nation-wide attention.

Sixth Pan-American Congress on Child Welfare.

A call has been issued for the assembling of this sixth congress in Lima, Peru, July 4-11, 1930. Dr. Sebastian Lorente, director of health of Peru, is president of the executive committee, and Dr. Carlos Enrique Paz Soldan, professor of hygiene and director of National Child Welfare Institute of Peru, is secretary-general.

Due to the increasing interest in child wel-

fare, this congress promises to be most interesting. The United States is to be represented at the congress.

Dr. Albert E. Wilson,

Norfolk, Va., is one of the candidates for the City Council of Norfolk, Va., and is among those who will come up for election on June 10th.

The Loudoun County Medical Society

Is to hold its next meeting on June 10th, at which time Dr. R. M. Choisser, of the laboratory staff of Dr. Oscar B. Hunter, of Washington, D. C., will address the Society on the cost and practicability of establishing a laboratory for chemical, bacteriological and roentgenological work for the physicians of Loudoun County. Dr. G. F. Simpson, Purcellville, is president, and Dr. William O. Bailey, Leesburg, secretary of this Society.

Dr. Basil B. Jones,

Richmond, Va., has been elected chief of the medical service of the Children's Home Society of Virginia, succeeding Dr. Frank K. Lord, who recently resigned after serving in this capacity for the past ten years.

Dr. W. Ambrose McGee, Richmond, also recently tendered his resignation as pediatrician and supervisor of diet for the children.

Dr. Henry B. Mulholland,

Associate professor of medicine at the University of Virginia, is the only initiate from the faculty elected to membership in the Raven Society of the University of Virginia, this Spring.

The Medical Society of the State of North Carolina

Held its annual meeting at Pinehurst, April 28th-30th, under the presidency of Dr. L. A. Crowell, of Lincolnton. Durham was selected as the next place of meeting and the dates set as April 20th, 21st, and 22nd, 1931. The following officers were elected: President, Dr. J. G. Murphy, Wilmington; president-elect, Dr. M. L. Stevens, Asheville; vice-presidents, Dr. C. A. Julian, Greensboro, and Dr. J. W. Davis, Statesville; secretary-treasurer, Dr. L. B. McBrayer (re-elected), Southern Pines.

The following were elected delegates to the Norfolk meeting of the Medical Society of Virginia: Dr. W. D. Rogers, Warrenton; Dr. William E. Warren, Williamston; Drs. C. B. Williams and W. W. Sawyer, Elizabeth City; Dr. J. F. Nash, St. Paul; Dr. G. E. Newby,

Hertford; Dr. B. C. Willis, Rocky Mount; and Dr. John W. Martin, Roanoke Rapids.

Dr. Reid White, Jr.,

Lexington, Va., has been elected a member of the central council of the Lexington Red Cross chapter for the ensuing year.

New Home for Destitute Crippled Children.

Ground was recently broken for the two units of the Home for Destitute Crippled Children at the University of Chicago, made possible by gifts of \$300,000 each by two public-spirited women.

Dr. James A. Wilkins,

For some years of Norfolk, Va., announces his removal to 203 Medical Arts Building, Lynchburg, Va.

The Leslie Dana Gold Medal,

Awarded annually in recognition of the most outstanding work in behalf of prevention of blindness, has just been presented to Dr. George E. de Schweinitz, of Philadelphia, a former president of the American Medical Association and prominent ophthalmologist.

Finding Jobs for the Crippled.

The employment center for the handicapped in New York City receives yearly about 600 new applications for work from young persons under twenty-one years of age. Last year the center placed more than 2,000 adults and children, but could find no jobs for 3,000 others. Applicants who need training are referred to the State Bureau of rehabilitation, the Institute for Crippled and Disabled, and other training organizations.

Spring Conference, Dallas Southern Clinical Society.

A total registration of 1,012 was reached in the Spring Conference of the Dallas Southern Clinical Society at Dallas, Texas, April 14th to 18th, inclusive. The visitors (exclusive of the guest speakers) came from ten southern states, ranging from New Mexico to Virginia. Guest speakers who appeared daily on the program included Drs. Logan Clendening, Kansas City; Geo. W. Crile, Cleveland; Vilray P. Blair, St. Louis; Francis M. Pottenger, Monrovia, Calif.; Frank Hinman, San Francisco; J. L. Morse, Boston; C. L. Scudder, Boston; J. F. Barnhill, Indianapolis; Otto H. Schwarz, St. Louis; C. C. Sturgis, Ann Arbor, Mich.; A. B. Moore, Rochester, Minn.

The general outline of the programs consisted of morning operative and diagnostic clinics in the allied hospitals—Baylor, St. Paul's, Methodist, Parkland, and Bradford

Memorial; morning post-graduate hours at the Baker Hotel; Round Table luncheons at noon, in Medical and Surgical groups; general sessions in the afternoon, featuring the distinguished guests; and special events in the evenings. On Monday evening there was a meeting open to the general public; Tuesday, "Get Together" Smoker; Wednesday, combined Alumni and Clinic Dinner, unanimously pronounced an overwhelming success; Thursday, symposium on Syphilis. A golf tournament was enjoyed on Friday. Six different subjects were presented in moving pictures, several with "talkies." Ten scientific exhibits were on display, and all available space for commercial exhibits was occupied.

The 150 members of the Dallas Southern Clinical Society were led in the very successful 1930 Conference by the following officers: President, Dr. Oscar M. Marchman; vice-president, Dr. T. C. Gilbert; treasurer, Dr. G. E. Brereton; secretary, Dr. Curtice Rosser; director of clinics, Dr. J. Shirley Sweeney; other members of executive committee, Dr. H. Leslie Moore, and Dr. J. M. Martin. Officers elected for the ensuing year are: President, Dr. J. M. Martin; vice-president, Dr. J. L. Goforth; treasurer, Dr. G. E. Brereton; secretary, Dr. M. O. Rouse; director of clinics, Dr. J. Shirley Sweeney; other members of executive committee, Drs. Marchman and Gilbert.

Plans are already under way for the 1931 Conference, which will probably be held in March.

Dr. J. Shelton Horsley,

Richmond, Va., by invitation gave the surgical oration before the Mississippi State Medical Association, at its meeting in Vicksburg, May 13th-15th.

Dr. Elizabeth Edmunds,

After several months at the Petersburg (Va.) Hospital, is now at 310 Medico-Dental Building, San Jose, California, where she expects to spend several weeks. Dr. Edmunds is a member of the class of '25, University of Virginia, Department of Medicine, and was located for a short time in Richmond.

Dr. J. Hudson Robinson,

Of the class of '29, Medical College of Virginia, after sometime spent in New York City, has returned to Shinnston, W. Va.

The Southside Virginia Medical Association

Will hold its next regular meeting in Suffolk, Va., June 10th. Dr. J. A. Grizzard, Drewry-

ville, is president, and Dr. R. L. Raiford, Franklin, secretary.

The American Proctologic Society

Is to hold its thirty-first annual meeting in Buffalo, N. Y., June 22nd-24th, with headquarters at the Statler Hotel. Dr. Walter A. Fansler, Minneapolis, is president, Dr. Cur-tice Rosser, Dallas, Texas, secretary, and Dr. D. C. McKenney, 461 Linwood Ave., Buffalo, chairman of the local committee of arrangements. Regular practitioners are invited to attend the scientific sessions. On Sunday, the 22nd of June, following registration, a trip has been arranged to Niagara Falls, with stops at various points of interest, returning to Buffalo that night. Late Tuesday evening, following the scientific meeting, members may take the steamer for Detroit, arriving there Wednesday morning for the A. M. A. meeting.

Correction in Radon Advertisement.

Attention is called to an error in the advertisement of the Radon Company as it appeared in our May issue. In giving a description of radon, the first line should have appeared as "Pure Gold (24 Karat)" instead of "4 Karat." This error occurred from some unforeseen reason, although correct in its proof form. We regret the mistake and take this means of trying to correct same.

Dr. Edward V. Valz,

Commander (M. C.), U. S. Navy, member of the Medical Society of Virginia, has been transferred from the U. S. S. *Arkansas* to duty at the Naval Hospital, Parris Island, S. C., effective June 1st.

Detroit Meeting of the A. M. A.

The American Medical Association is to hold its eighty-first annual meeting in Detroit, Mich., June 23rd-27th. Dr. Malcolm L. Harris, Chicago, is president, and Dr. William Gerry Morgan, Washington, D. C., president-elect. The House of Delegates will convene on the 23rd, and the scientific assembly will open with the general meeting on the evening of June 24th.

Delegates from the Medical Society of Virginia to this meeting are Drs. Southgate Leigh, Norfolk, J. W. Preston, Roanoke, and E. G. Williams, Richmond.

Dr. Archer A. Wilson

Has resumed his residency in neuro-surgery on the Hospital Division of the Medical College of Virginia, after several months at the Boston (Mass.) City Hospital. Dr. Wilson is a member of the class of '23, Medical College

of Virginia, and was for several years located at Switchback, W. Va.

Attend Rotary Convention.

Drs. George A. Wright, W. H. McCarty, and A. D. Hutton, Marion, Va., were among those attending the Rotary Convention in Richmond, early in May.

Virginia Divorces—1929.

Statistics from the Bureau of Vital Statistics show that there were granted in Virginia for 1929, 3,054 divorces, a gain of 102 over 1928, and the highest number since the period following the World War, 1919-1921. Of the 1929 divorces, the male was plaintiff in 1,059 and the female in 1,995.

The five to nine year period after marriage proved the most prolific for divorces, 1,124 occurring during those five years, while 669 were during the first five.

There has been no noteworthy increase in any county or city.

Amelia County alone furnished no divorces, while Arlington led the counties with 162.

The cities furnishing more than 100 divorces each are: Richmond, 419; Norfolk, 360; Alexandria, 161; Roanoke, 151.

To Head U. S. Food Control Office.

Dr. Ward B. White, of the New York State Bureau of Chemistry, has accepted the position of chief of food control, Food and Drug Administration, U. S. Department of Agriculture, effective June 2nd. This appointment is to fill the vacancy caused by the death of Dr. R. W. Balcom. Dr. White has worked with the New York State Bureau of Chemistry for the last twenty years and has been director of the bureau for the past seven years.

Sarah Leigh Clinic Changes Location.

Drs. Southgate Leigh, James H. Culpepper, Stanley H. Graves, Frederick C. Rinker, Walter P. Adams, Harry Harrison, S. B. Whitlock, and Robt. W. Sturgis, composing the Sarah Leigh Clinic, of Norfolk, Va., announce removal of their offices from 109 College Place to 712 Botetourt Street, adjoining the Sarah Leigh Hospital.

The Pellagra Preventive Action of Canned Salmon.

In connection with studies relating to the pellagra preventive properties of various food substances the United States Public Health Service has recently announced that canned salmon (Alaska chum) contains the pellagra preventive factor. By reason of its potency in preventing pellagra and its availability in

the preserved state, salmon may be considered a fair substitute for meat in the area of pellagra endemicity where meat is not readily available. The demonstration of the pellagra preventive value of canned salmon furnished further evidence of the soundness of the working hypothesis that black tongue in dogs is the analogue of pellagra in man.

Dr. J. F. Alsop

Returned to his home at Prospect, Va., the first of June, after a post-graduate course at Tulane University, New Orleans.

Dr. Joseph L. Miller,

Thomas, W. Va., widely known writer and authority on medical history, was honored with the degree of bachelor of letters by the Medical College of Virginia at its closing exercises on June the 3rd.

Technician Desires Position.

Technician with five years' actual experience in X-ray and laboratory work desires position in clinic or hospital. Graduate in laboratory course at Post-Graduate Hospital and Medical School, Chicago. Address "A. B." care this journal. (*Adv.*)

Intensive Post-Graduate Course.

Professor Georges Portmann will give a five-week, intensive post-graduate course in ear, nose, and throat surgery, at the University of Bordeaux, France, commencing July 21, 1930. This course is open to American physicians.

For information apply to Dr. L. Felderman, Mitten Building, N. W. Cor. Broad and Locust Sts., Philadelphia, Pa. (*Adv.*)

Wanted.

A physician for a rural practice in Northern Virginia, fifty miles from Washington, D. C., in a rich, high, beautiful section with good schools, churches, excellent people and some bad roads. Collections 80 to 95 per cent—excellent territory, with good income.

Please give the following information in your first letter: Age; Married or Single; Number of children, with ages; Where Born? Where Educated? When and where graduated in Medicine? Internship, if any, when and where? Religion of self and wife. Membership in fraternities, clubs, lodges, etc.; Do you hold a license in Virginia?

Address, Box 222, Warrenton, Va. (*Adv.*)

Wanted.

Few younger children for excellent board-

ing school in Northern Virginia, near Washington, D. C. Girls not over twelve years old. Boys not over eight years old. Enroll now for session beginning September, 1930. Kindergarten. Regular courses. Music. French. Dancing. Apply P. O. Box 222, Warrenton, Va. (*Adv.*)

For Sale.

Eye, Ear, Nose, and Throat equipment. For particulars, write Mrs. George P. McCoy, Monterey, Va. (*Adv.*)

For Sale.

Established practice in nice Virginia town of 5,000 people and good surrounding territory. Hospital service available in town. Excellent opening for man just starting practice. Office in best location in town and well equipped for general practice. Will introduce a new man if he buys at once. \$500 cash or terms. Reason—Specializing. Address No. 236, care this journal. (*Adv.*)

Obituary Record

Dr. John William Dillard,

Well-known physician and surgeon of Lynchburg, Va., died at his home in that place, May 17th, after an illness of several weeks with heart disease. Dr. Dillard was born in Nelson County, Virginia, in 1852, and received his medical education at the University of Virginia, from which he received his degree in 1875. He became a member of the Medical Society of Virginia the following year and for some time took an active interest in the meetings, having been twice a vice-president. He was also connected with several other medical organizations and was a Mason, Knight Templar and an Elk. His wife and three children survive him.

Resolutions on Death of Dr. Richard Randolph Nevitte.

We the joint committee appointed from the Accomack Medical Society, the Northampton Medical Society and the Physicians' Journal Club of the Eastern Shore of Virginia, beg to submit the following Resolutions of Respect in the death of our colleague, Richard Randolph Nevitte, M. D., of Temperanceville, Va., who died January 17, 1930.

RESOLVED 1st. That in the passing of Dr. Nevitte the "Shore" has lost one of its outstanding physicians,—one whose skill as a physician was only matched by his fluency of speech and bigness of heart.

RESOLVED 2nd. That his fatal illness was contracted in line of duty while alleviating the suffering of mankind, sustaining blood poisoning as a result of a cut received while operating.

RESOLVED 3rd. That his influence for good extended not only in his local surroundings, but also throughout the entire Shore, both professional and in matters pertaining to civic betterment.

RESOLVED 4th. That the joint societies extend to the bereaved family our sincere sympathy, that a copy be mailed the family, spread upon the minutes of the respective societies and also published in the local papers.

JOHN W. ROBERTSON, M. D.,
G. W. HOLLAND, M. D.,
JAMES C. DOUGHTY, M. D.,
Committee.

Resolutions on Death of Dr. J. Garnett Nelson.

The Executive Committee of the Virginia Tuberculosis Association at the first meeting following the death of Dr. John Garnett Nelson, an interested, active, honored and beloved member, in profound sorrow at his untimely death, hereby adopts the following preamble and resolution.

PREAMBLE: Whereas, in the unscrutable workings of Divine Providence our beloved friend and colleague, John Garnett Nelson, has been taken from our midst by the hand of death, and

Whereas, the high qualities of his mind and heart, the informed intelligence and purposeful zeal of his fruitful life were such as to create in all who were privileged to associate with him an affectionate admiration for him as a man, and a profound respect for his opinions and judgments, and

Whereas, the wise, tolerant, experienced and balanced personality of Dr. Nelson is no longer with us to aid in guiding the work of the Association, we, his friends and associates in State Tuberculosis Control work,

RESOLVE: That while we deeply deplore the passing of this great friend and neighbor to all in need, the inspiration of his life and labors, so conspicuous as it was, in a profession normally given to good deeds, will long remain to cheer and inspire our efforts in the field of activity he gave so much of himself to promote.

RESOLVED FURTHER, That we record these sentiments of our hearts upon the minutes of our Committee, and transmit them to the members of Dr. Nelson's family with the assurance of our deep sympathy.

ROY K. FLANNAGAN,
H. LAURIE SMITH,
J. VAUGHAN GARY.

Resolutions on Death of Dr. Brydon.

The Committee of Maternal Welfare of the Medical Society of Virginia has voiced its regret in the passing of Dr. Mary E. Brydon by the following resolutions:

WHEREAS, It has pleased God in his wisdom to remove from our midst, Dr. Mary E. Brydon MacKay, our faithful and efficient secretary;

BE IT RESOLVED, That by her death the Committee of Maternal Welfare of the Medical Society of Virginia has lost a wise counsellor, who gave freely of her time and talents to the end that the lives of mothers and babies of the State of Virginia might be saved.

BE IT FURTHER RESOLVED, That a copy of these resolutions be spread upon the minutes of the committee, a copy be published in the VIRGINIA MEDICAL MONTHLY, and a copy be sent to the bereaved family.

Signed:

GREER BAUGHMAN,
P. W. MILES,
C. B. BOWYER,
RUTH MASON.

April 14, 1930.

Dr. Walter Stith Phillips,

Rapidan, Va., died suddenly March 5th, of heart disease, at the age of sixty. He was a graduate of the University of Maryland, School of Medicine, in 1897.

Dr. Wilfred Mason Barton,

Well-known physician of Washington, D. C., died April 3rd, at the Mayo Clinic, of peritonitis, following an operation. He was fifty-eight years of age and graduated from the Georgetown University School of Medicine in 1892. Dr. Barton was a past president of Medical Society of the District of Columbia and was professor of medicine and applied therapeutics at his alma mater.

Dr. George H. Chewning,

Fredericksburg, Va., died March 20th, at the age of eighty-three years. He was a graduate of the College of Physicians and Surgeons, Baltimore, in 1870. Dr. Chewning was also a dentist.

Dr. Charles Duncan Garrett,

Rocky Mount, Va., died March 17th, at the age of twenty-eight. His death was due to tuberculosis. Dr. Garrett was a graduate of the Medical College of Virginia in 1925.

Dr. James Franklin Dicks

Died at his home in Stoneville, N. C., March 23rd, of chronic nephritis. He was fifty-three years of age and a graduate of the University College of Medicine, Richmond, Va., in the class of '01.

Commander Henry Bird Fitts, M. C.,

U. S. Navy, retired, died March 23rd, in Lima, Peru, of arteriosclerosis. He was seventy-one years of age and graduated from the University of Virginia, Department of Medicine, in 1880.

Col. Guy Lewis Edie, M. C.,

U. S. Army, retired, died April 8th, at the Letterman General Hospital, San Francisco, of coronary sclerosis. He was seventy-two years of age and a graduate of the University of Virginia, Department of Medicine, in 1879. Dr. Edie was a veteran of the Spanish-American War.

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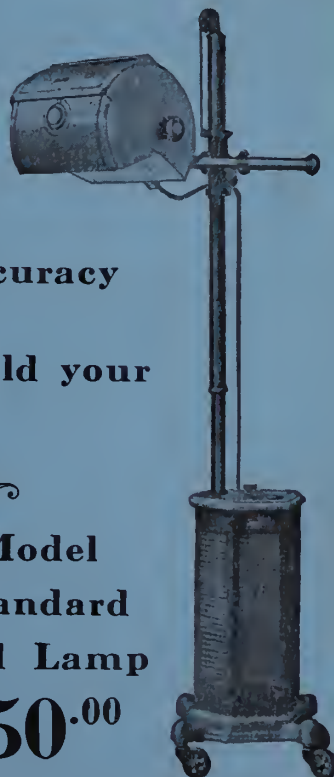
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61st Annual Meeting, Medical Society of Virginia in
Norfolk, October 21-23, 1930

Virginia Medical Monthly

OFFICIAL ORGAN OF THE MEDICAL SOCIETY OF VIRGINIA

Vol. 57, No. 4.
WHOLE No. 937.

RICHMOND, VA., JULY, 1930

\$2.00 A YEAR
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A famous athletic trainer always permits his men to eat all the ice cream they want. A well-known physician in Philadelphia often advises business men who are his patients to drop in at a soda fountain in the late afternoon and drink a flavored milk shake. Fatigue and

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Virginia Medical Monthly

Official Organ of the Medical Society of Virginia

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RICHMOND, VA., JULY, 1930

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THE APPROACH TO THE "ACUTE ABDOMEN."*

By EDWIN P. LEHMAN, M. D., University, Va.

Your committee suggested that I take for my subject the "acute abdomen." I suppose no paper has ever been written on this subject that has not begun with a discussion of the merits of the term. The purists have denounced it on the obvious basis of its non-grammatical construction. Practical men have accepted it for its usefulness, of which there is no question. It presents a particular clinical picture which often enough cannot be better defined. It is medical slang, and like all good slang, it has point and brevity. It is elliptical for "the abdomen of acute surgical disease," a phrase that defies every day use. But, like the best of slang, it has its place in conversation. For those who, as liberally educated men, have some slight interest in the preservation of the purity of our language, it has no place in written speech.

If we seek to define the phrase, we find ourselves describing the condition. It is, in brief, the clinical picture presented by an individual who needs more or less prompt laparotomy. It is recognized by a group of symptoms, of signs, of laboratory findings, which, taken separately and together, combine into the picture.

I do not intend to describe the picture in detail. It is familiar to all of you. Its essential elements are, of course, pain, vomiting, distention, malaise, tenderness, rigidity, tympanites, fever, tachycardia, polymorphonuclear leucocytosis. Such a list means only that from a combination of its elements the diagnosis can be reached. It does not take into consideration a host of other findings that must be known and weighed. As in any diagnostic problem, the negative findings are often of more importance than the positive. Changes in the urine rarely have positive significance in acute

surgical disasters in the abdomen. A urine rich in pus that is observed in a case of acute right-sided abdominal pain, may be of decisive negative value.

There is held an entirely different point of view towards acute abdominal disease from that held towards chronic abdominal disease. This difference depends on the element of time alone. As the surgeon's diagnostic resources increase with the addition of new methods and the refinement of old, he enters the abdomen in chronic disease with more and more certainty of what pathological changes he will find and what treatment he must carry out. Such certainty leads to quick and accurate work, to the elimination of the emergency decision. The major portion of his sureness of diagnosis comes from his clinical ability, which comprises accuracy of historical data, closeness and completeness of observation, shrewd inference from his findings based on a wide knowledge of disease and its infinite manifestations. To these are added the simpler laboratory examinations. If these means fail him, he calls upon the more complicated laboratory methods, the chemical examination of the blood, the roentgen ray, and so forth. In the chronic case, these are all at his disposal. Modern surgery is becoming suspicious of the words "exploratory laparotomy." Until our pre-operative diagnostic methods and acumen become enormously more efficient, these words will still be necessary occasionally. The final diagnostic resource of seeing and feeling and the biopsy must be employed. But "exploratory laparotomy" in chronic disease is unquestionably becoming less and less frequent.

The peculiar interest that acute abdominal disease offers, lies in the fact that the more elaborate diagnostic aids are not available. The doctor is thrown back upon his own abilities in questioning and observation, aided by a few simple laboratory procedures. Time lacks for anything else. Decision on treatment must be made before the appendix ruptures, or the stomach content escaping through a

*Read at the Commonwealth Fund Medical Institute, Southside Community Hospital, Farmville, Va., March 18, 1930.

From the Department of Surgery and Gynecology, University of Virginia School of Medicine.

perforated ulcer establishes a peritonitis, or the toxæmia of an acute obstruction becomes overwhelming. For this reason the exploratory laparotomy is frequently thoroughly justified in the face of acute abdominal disaster.

As a corollary of this conclusion, it becomes obvious that the surgeon must first decide whether or not the particular abdomen needs laparotomy. The accurate diagnosis of the intra-abdominal condition present may have weight in making the decision. But often enough, any attempt to make such an accurate diagnosis is incidental to the primary question and of value only in preparing the patient, the surgeon and the operating equipment for eventualities.

The surgeon sees too many acute abdominal disasters that have gone untreated until the patients are beyond help. Frequently this is due to the stupidity or fear of the patient himself who does not call a doctor. Too frequently it is due to the doctor whom he calls and who does not recognize the condition. On the other hand the surgeon operates too frequently for acute abdominal disasters when none are present. The family doctor, who sees most of these cases first, and the surgeon, who treats them, are neither without fault. To correct their deficiencies, they must look at this problem from somewhat differing angles. The family doctor must answer the question: "Can this be a surgical condition?" The surgeon, when the case reaches him must add: "Can it be anything else?" It is the attack on the diagnosis from these two points of view, that I plan to consider.

"Can this be a surgical condition?" The family doctor works under two difficulties, one of which is a real handicap. He ordinarily does not have promptly available the simple laboratory tests. This, of course, means that he is thrown still more on his own resources. A habit of mind that prevents him from using those resources is his second difficulty. The family physician sees ninety-nine cases of abdominal pain that are not surgical to one that is. To the man of active, alert mind, this circumstance is challenging. He is determined never to let the hundredth case escape his detection. In the practice of the routinist, the man who falls easily and comfortably into slovenly habits, the hundredth case does escape. To judge by the surgeon's experience, this genus still exists.

Of course, the most careful man will err

occasionally; and the failure in an instance or two to recognize acute surgical disease of the abdomen does not therefore condemn him. The point that I want to make emphatically is that the careless man will rarely recognize it.

This implies that every case that offers a presenting symptom of abdominal pain must have a certain minimal preliminary study. In the ninety-nine cases, this study will be unnecessary; in the hundredth it may save a life. The case must have a history, which the intelligent examiner will vary with the age, the sex, the obvious degree of illness, and other factors. The most significant points to be determined are as follows: (1) General state of health; (2) Particular state of health just previous to the onset of the presenting symptom; (3) Presence or absence of previous attacks of the same or similar nature; (4) Presence or absence of similar attacks near the time of onset among members of the family or school or boarding-house; (5) Occupation; (6) Character of the onset of symptoms, gradual or sudden; (7) Association of the onset of symptoms with some possibly related incident such as a food or a meal of unusual character, a debauch or an injury; (8) Character, severity, location, radiation and alterations in the pain; (9) Occurrence and frequency of vomiting and the character of the vomitus; (10) Ordinary habits of defecation and any change therein, such as unusual constipation or a diarrhoea, together with any abnormality of the stool; (11) Occurrence of distention; (12) Occurrence of a chill; (13) Details of menstruation, the time and character of the last period especially; (14) Treatment, especially catharsis, administered before the arrival of the doctor. This list is not intended to be all-inclusive; there are many other specific questions that are indispensable to an accurate diagnosis. But these are enough, taken with the minimal examination to answer the question, "Can this be a surgical condition?"

The minimal examination is brief and easily done,—a pulse count, a measurement of the body temperature and an examination of the abdomen. With this information it is often easy for the physician to be definite in his decision that it is not a surgical condition. In this case it behooves him to continue with history and examination until he can approach a

diagnosis. In the case of a small boy who confesses an amazing dietary indiscretion, who has been vomiting and has diarrhoea, the diagnosis seems obvious. But until the physician has felt the abdomen, he cannot rule out appendicitis. It is more often the failure to feel the abdomen than any other one thing that leads to the missed diagnosis. If, in any case of acute abdominal pain, the abdomen is scaphoid, soft everywhere and without tenderness, the presence of an acute surgical emergency is extremely doubtful. If the examiner finds definite or doubtful rigidity with tenderness, he had better answer the question in the affirmative. The answer is not, "This is an acute surgical condition." It is "This can be an acute surgical condition. I had therefore better let the surgeon decide whether it is or is not." A useless trip to the hospital is far better than one too late. The medical man had better choose as his surgeon one who will always ask himself what conditions that do not demand laparotomy might be present. The decision on whether or not an operation is indicated is, after all, the surgeon's responsibility. A physician who insists on the surgeon operating when he tells him to, misses the value of consultation and, if his operator obeys, is subjecting his patients to a technician and not to a surgeon.

The failure to consult a surgeon through carelessness or incompleteness of examination, is no worse than the prescribing of treatment of any sort under similar circumstances. The abuse of cathartics in abdominal pain is among the worst mistakes with which our profession must reproach itself. No more serious error of judgment can be made than to purge in the presence of known or suspected intestinal obstruction or peritoneal irritation. The prescription of cathartics over the telephone or at the bedside without a previous examination of the abdomen is a professional crime. It may appear unnecessary to make such familiar statements or to make them so positively. Unfortunately every surgeon can testify to the constantly recurring experience of operating upon cases of intestinal obstruction or peritonitis following catharsis. And he will add, further, that those cases are almost invariably among the sickest he is called upon to treat. In considering this testimony it may be argued with all justice, that the carelessness or ignorance that will purge when these conditions can-

not be ruled out, is the very carelessness and ignorance that fails to recognize their possible presence. Often enough, the catharsis is home-given, the blind following of a hoary tradition that the emptying of the bowel will cure abdominal pain. The housewife sees too many cases of green-apple colic satisfactorily cured by this method. As modern knowledge has grown of the reaction of the peritoneum to infection and of the mechanics and bio-chemistry of intestinal obstruction, the medical profession has learned the error of its way. It will take many years of household instruction by countless physicians to control this almost instinctive impulse. There is a field here for public education in preventive medicine that each of us has a daily duty to cultivate.

A third frequent error on the part of the family doctor in these conditions is in the use of narcotics. The rule should be, never to give narcotics unless they appear absolutely necessary. The handicap under which the surgeon labors in attempting to diagnose an intra-abdominal disaster in a patient who has received a physiological dose of morphine is sometimes of crucial importance. This handicap works in several ways. In the first place, it means that the surgeon must take the description of the pain previously present from the patient's memory,—a deceptive method. In the second place, it means that areas of tenderness may be narrowed and sharpness of tenderness may be dulled. In the third place, it means that the protective rigidity of the abdominal musculature may be relaxed, and thus a sign of decisive value may be lost. In the fourth place, it means that alterations in the intensity of the pain may be blurred, leaving the surgeon unaware of significant progress in the course of the disease, either towards spontaneous recovery or progressive spread.

There is a place, of course, for morphine in these conditions. Pain may be so severe that shock is hastened or examination made unsatisfactory. As a surgeon, who must take the responsibility of operative decision later, I make a plea for the use of narcotics only under such urgent indications, and then only in doses sufficient to give relative ease and not complete relief. I do not fail to recognize that the withholding of morphine at the bedside with a group of anxious and sympathetic relatives about, takes a degree of moral courage.

The patient has now been brought to the

hospital. Perhaps the doctor has gone only so far as to determine that the case may be surgical. This is the least he can do. If he is capable and interested, he has a complete diagnosis in many instances. It is now the surgeon's task. He has three steps to take. He is wise if first he answers the question already put: "Can this be anything except a surgical condition?" After that he must decide whether or not it is a case for immediate operation, and lastly, "What is the probable diagnosis?" These last two steps go hand in hand; either one may precede the other.

The surgeon has at his command resources that the family doctor often lacks. He can obtain examinations of the blood, the urine, the stool, the vomitus, with ease. Assistance is available whereby a catheter specimen of urine can be obtained readily and with safety. The fluoroscope is ready at his hand. In all cases he need not use all of these; examination of the blood, especially the absolute and differential count of leucocytes, and examination of the urine are essential in all cases. The surgeon must obtain his own history, and make his own physical examination. How complete these must be will be suggested by the remarks on the differential diagnosis that are to follow.

The conditions that the surgeon most frequently meets which are non-operative, but in which the presenting symptom is acute abdominal pain, may be classified first into those within the peritoneal cavity and those outside the peritoneal cavity. In general, one of three pathological situations must be present within the abdominal cavity to justify immediate laparotomy. These in the order of their frequency are: (1) A threat of infection of the peritoneum or an already established infection of the peritoneum which is spreading from a focus; (2) Complete obstruction of the intestine, with or without strangulation, except occasional early low obstruction; (3) Active continuing hemorrhage into the peritoneum or at times into the bowel. There are certain acute intra-abdominal diseases which are associated with no one of these three, but which present symptoms and signs closely resembling those of the acute operative cases.

One of the commonest of these conditions is acute infection of the gall-bladder. The majority of cases of this disease, even when an actual empyema of the gall-bladder is present,

will subside spontaneously with rest and heat. Of those that go on to rupture, a good proportion will rupture into an inflammatory mass that has formed about the gall-bladder during the preceding period of infection. On a statistical basis, the threat of spreading peritonitis is slight. It is wise, therefore, not to consider acute cholecystitis as a surgical emergency unless there are increasing symptoms and signs of general sepsis, continued vomiting, and spread of tenderness and rigidity in the upper abdomen.

Gall-stone colic (and the same may be said of renal colic), in the absence of accompanying infection, is not often misinterpreted as an acute surgical condition of the abdomen. The absence of rigidity and a leucocytosis are usually determining factors. These syndromes ordinarily carry no threat to the peritoneum.

The commonest renal condition to create difficulty is pyelitis, particularly on the right side. Appendicectomy for pyelitis is a frequent mistake. The difficulty is increased both by the occasional presence of small numbers of pus cells and red blood cells in the urine in inflammatory conditions involving the peritoneum, and by the not infrequent normal urine found in cases of pyelitis with blocked ureter. Certainly the finding of any quantity of pus in the urine obtained by catheter is ground for caution. In children, vomiting may confuse the issue. True spasm of the abdominal muscles rarely occurs, but voluntary rigidity is common. Fever and leucocytosis are apt to range higher than in the ordinary type of early peritonitis.

The third important intra-abdominal lesion to be ruled out is inflammatory disease of the pelvic viscera in women. The keynote of modern gynecology in this field is conservatism, not only from the point of view of mortality, but also from the point of view of preservation of reproductive function. Under rest, heat, non-specific protein therapy, possibly diathermy, most of these inflammations will subside until a chronic stage is reached. Operation thereafter is simpler, safer and can be carried out with some knowledge of the ultimate function to be expected from the diseased organs.

The group of extra-abdominal diseases that may present acute symptoms simulating intra-abdominal surgical disasters may be classified according to the nature or location of the dis-

ease under the following heads: (1) Transient digestive disturbances; (2) General infections; (3) Allergic phenomena; (4) Poisonings; (5) Intrathoracic disease; (6) Central nervous system disease; (7) Skeletal disease; (8) Rarer miscellaneous conditions. The differentiation of most of these from acute intra-abdominal disease requiring surgical intervention is usually easy if a complete physical examination is made. Error will come to the surgeon whose examination is limited to the abdomen. Let us mention briefly what conditions the surgeons must have in mind in each of these classifications.

The transient digestive disturbance is usually fairly well ruled out before the case reaches the surgeon. The latter must remember that perforation of a peptic ulcer and appendicitis not infrequently follow gastric indiscretion and that in a large proportion of cases the patient will somehow remember a similar indiscretion to explain any abdominal pain.

General infections which present abdominal complaints include typhoid, tonsillitis, scarlet fever and influenza. In the influenza epidemic of a year ago, the presenting symptom was frequently abdominal pain. I had at least a half dozen times to differentiate between this disease and an upper abdominal surgical lesion such as a perforating gastric ulcer. The history of upper respiratory disease or the gradual development of symptoms characteristic of typhoid fever, taken with the examination of the skin, the throat, the nose, the thorax and the abdomen will ordinarily differentiate these conditions.

Our knowledge of allergic phenomena is increasing rapidly. We are recognizing more frequently the occurrence of abdominal symptoms resulting from the allergic state. At least two different types can be differentiated. Henoch's purpura, the type of purpura associated with intestinal crises, has been shown in some instances, at least, to be of allergic origin. This disease produces its intestinal symptoms probably from interstitial hemorrhage into the wall of the bowel. It is associated with purpuric spots in the skin and ordinarily a relaxed abdominal musculature. The intestinal crises are characterized by intense general abdominal pain accompanied by vomiting. The warning may be given that these hemorrhages have been known to cause intestinal obstruction. In this case, of course,

the condition becomes a surgical emergency. The second type of allergic manifestation that may cause confusion is that caused by transient edema of the intestine, a sort of mucosal or muscular "hives." Here again we have a soft abdomen. A striking differential point is found in the fact that, as in all pure colics, the patient seeks relief from pressure on the abdomen rather than by protecting it from pressure. A history of other symptoms caused by sensitization may suggest the diagnosis, for example, of attacks of hives, hay-fever or asthma.

Of the poisonings that present gastro-intestinal attacks, chronic lead poisoning has been the most frequent up to recent years. Prophylaxis against exposure to lead in the industries is making this condition much rarer. The finding of a "lead line," stippled blood cells, nervous system changes, with a knowledge of the patient's occupation will prevent laparotomy. Here again, the abdomen is soft and the patient seeks relief by pressure.

In the field of intrathoracic disease, the differential diagnosis from acute surgical conditions of the abdomen is notoriously difficult. Except possibly for those done for pyelitis, there have probably been more abdominal operations performed for diseases of the pleurae, lungs and heart than for any other extra-abdominal conditions. There are three diseases that are apt to present abdominal symptoms. The first of these is pneumonia, particularly with involvement of the diaphragmatic pleura. In young children in whom any infection may be associated with vomiting and in whom we know for embryological reasons that the appendix may be situated high on the right side, this confusion is particularly apt to occur. No laparotomy for acute disease is to be done without an adequate clinical examination of the chest. In doubtful cases a fluoroscopic and film examination is to be added.

In elderly individuals, diseases of the coronary vessels frequently simulate upper abdominal disease. The difficulty of differentiation is increased by the fact that in the intervals between their more acute manifestations, these diseases are frequently associated with chronic digestive disturbance resembling the symptoms of chronic cholecystitis. The history of the onset of pain with effort and the presence of symptoms and signs of myocardial weakness together with a pericardial friction rub are suggestive evidence.

The third thoracic condition that must be considered is fracture of a rib in the lower one-third of the chest. Pain from such a fracture may be referred to the abdomen, and the protective muscle spasm associated with it may involve the abdominal musculature. Occasionally contusion of the chest may create the same syndrome. An example of this nature will be cited below.

Among central nervous system diseases that may simulate acute intra-abdominal lesions are tabes dorsalis and meningitis. The gastric and intestinal crises of the former are always to be in the back of the surgeon's mind.

Deformities and diseases of the spine and sacrum are not infrequently confusing. Root pains from hypertrophic osteo-arthritis, metastatic carcinoma of the vertebrae or Pott's disease must always be borne in mind. Sacroiliac arthritis occasionally presents both pain and tenderness simulating those of appendicitis.

This list of non-surgical diseases that lays a trap for the unwary surgeon is formidable. If we analyze, however, the procedures that will give us a reasonable certainty of avoiding laparotomy in the presence of such disease, the situation at once becomes simplified. An examination of the eyes, nose, mouth, and throat, of the thorax, of the skin, of the reflexes, of the spine, as well as the usual abdominal, vaginal and rectal examinations,—in short, an adequate general physical examination, together with a proper examination of the urine and the blood smear and a count of the white cells, will serve to detect in the majority of instances any of these non-surgical diseases. This requirement is no greater than the ordinary duty of the physician to his patient. There will remain a certain proportion of cases in which there is still doubt. In these, the more elaborate methods, such as the X-ray, may have to be employed.

If, now, the surgeon is reasonably certain that he is not dealing with an extra-abdominal source of symptoms, he must decide for or against immediate laparotomy and at the same time attempt to refine his diagnosis. The typical case of acute appendicitis seen twelve hours after onset, the case of intestinal obstruction from strangulation of an inguinal hernia and the case of perforation of a previously known duodenal ulcer are examples of reasonably obvious and simple diagnoses which themselves determine the treatment. At the other

end of the scale are the cases that present no characteristic phenomena but that nevertheless demand operation. The young adult with a negative recent history who for twenty-four hours has suffered severe generalized abdominal pain without localization, vomiting, prostration, who presents an anxious expression, a rigid abdomen exquisitely tender everywhere, a rapid pulse, costal breathing, and a leucocyte count of 20,000—such an individual presents the picture that justifies immediate exploratory laparotomy. No diagnosis beyond that of acute general peritonitis is possible. Whether the origin is a ruptured appendix, a perforated ulcer, a Meckel's diverticulitis, a rupture of a suppurating mesenteric gland, or what not, cannot be said.

Between these two extremes lies a great group of cases in which the diagnosis is less certain than in the former instance and more certain than in the latter. In this group the decision on immediate laparotomy is sometimes less clearly indicated than in either of the other two. This group contains the cases in which the pros and cons must be weighed with the utmost care.

A particular class of case in this group must be distinguished, namely, the class of case in which temporizing hour by hour may be indicated. An exploratory laparotomy, of course, in cases of doubt is in the long run safer than delay. (There are certain important exceptions to this dictum to be discussed below). Therefore, the cases that are to be watched, with the idea of surgical intervention when indications warrant, are distinctly limited in number. This course is to be pursued only when there are very definite reasons that can be clearly stated. A case seen very early in the progress of the disease can occasionally be safely watched for a few hours, if the first hour indicates subsidence of symptoms and signs. This type of case frequently presents such slight findings that delay is obligatory. A case seen later in the disease that gives a history of distinct improvement in symptoms during the preceding three or four hours is another example. A case that has been traveling for several hours, is fatigued, perhaps chilled, so that the severity of the disease cannot be properly judged, had sometimes better be given two or three hours of rest. At the end of that time, the picture may be so altered that further delay is advisable. If there is evidence of progress of the disease in the in-

terval, the decision to observe can be at once reversed. The case that has been mistreated, that has not had a fair opportunity to overcome infection, sometimes comes into this class. An example is the case that has been soundly purged and that arrives at the hospital without too urgent signs. And, lastly, of course, the case that is presented in profound shock. In complete intestinal obstruction, except obstruction low in the bowel and except when the patient is moribund, never should delay in operation be contemplated.

Observation in these cases is a very tentative course, which may be given up at any moment. During the period of observation certain minimum provisions must be established. In the first place, the patient with suspected acute surgical disease of the abdomen must be in a hospital. No physician is warranted in watching such a case in the patient's home. The patient must have charted curves of pulse and respiration rate and temperature. The interval of recording will vary with the severity of the case. At times every two hours will suffice. In other instances, as, for example, in shock, the readings must be taken every few minutes. It is the duty of the surgeon to specify the intervals in each case. In the presence of shock, frequent readings of the blood pressure must be added. The leucocytes of the blood must be counted frequently. Occasionally I have had this done as frequently as once an hour; in the usual case every two or three hours will be sufficient. The nurse's record must contain notes on the patient's vomiting and on his complaints. If all this information is accurately gathered, the surgeon can judge the progress of the case as he sees it from time to time. A glance at the temperature, pulse, respiration, and leucocyte curves, a note of the presence or absence of vomiting, a brief summary of the patient's change in subjective state, a glimpse at his face and a careful examination of his abdomen searching for alterations in tenderness and rigidity, will give a basis for decision on the question of laparotomy or further delay.

In the meantime, treatment must be prescribed. The most important elements in the treatment are entirely negative. The ultimate aim of the treatment is twofold—to give the diseased organism every opportunity to overcome infection, and to handicap the surgeon as little as possible in his diagnosis. The four most important negative factors are: (1) Com-

plete rest in bed; (2) No catharsis; (3) Nothing by mouth; and (4) No morphine or other narcotic unless absolutely unavoidable. The provision that nothing shall be given by mouth is absolute. The act of swallowing may start a rush wave of peristalsis that will sweep from one end of the bowel to the other. Therefore even water is interdicted. The tongue may be kept moist by wiping it with moist gauze. If the patient needs water, as most of them do, it must be given in other ways. For rectal administration I have a preference for the intermittent instillation of relatively large amounts, for example, of 300 c.c. every four hours for the average adult. I have found it to be better retained and to cause less discomfort than the continuous drip. This should be supplemented by the intravenous or subcutaneous administration of physiological saline. The intravenous method is preferred on account of its greater degree of comfort except in cases where it is not desirable to overload the heart. The free use of saline is important also in replacing chloride lost by vomiting. Glucose in 5 per cent or 10 per cent solution can be added if starvation lasts longer than a few hours, or if the patient has had a prolonged period of illness behind him. An ice-bag or a hot-water bottle placed on the abdomen is often comforting. Each probably creates the same physiological reaction, namely, a reflex hyperaemia of the abdominal viscera. The choice hinges only on the patient's subjective reaction. The one that makes him most comfortable is the one he can have. An enema is sometimes indicated at this stage; but it is to be remembered that the receiving and expulsion of an enema is not a restful occupation. Furthermore, a certain amount of peristaltic activity is unquestionably created by this means. On the other hand, we have all seen abdomens that have presented all the criteria of acute surgical disease until the giving of an enema, after which all symptoms and signs have disappeared. In shock or hemorrhage, a transfusion is often desirable. These simple measures comprise the sum total of permissible treatment during the period of observation.

The result of the period of observation may be immediate laparotomy at any stage, recovery without laparotomy, or the progress of the disease into a chronic stage during which operation can be done after adequate diagnosis and under relatively favorable circumstances.

We have classified diseases presenting ab-

dominal symptoms under surgical and non-surgical heads. Another aspect of this problem is suggested by reclassifying the non-surgical group from another point of view, namely, from that of the danger of laparotomy. As judged from statistics of the mortality for operations for acute appendicitis without peritonitis, the mortality of laparotomy itself is low. In a group of cases reported by Quain and Waldschmidt, operation for this type of appendicitis was followed by a mortality of about 1/3 of 1 per cent. The mortality from simple laparotomy in the absence of any disease would unquestionably be even less. This figure is, of course, enormously less than the rate of diagnostic error of even the most able surgeon in the doubtful case of abdominal disease. Laparotomy is, therefore, indubitably safer than failure to operate in the case which may or may not belong to the class of surgical emergencies, provided only that the circumstances of the case do not increase the risk over that of simple laparotomy. The risks of simple laparotomy comprise those of any surgical accidents secondary to operating and not dependent on the disease. Anesthetic death, surgical wound infection, pulmonary embolism, these are the main elements.

Certain of the conditions that must be differentiated from the surgical emergencies definitely add to the risk of laparotomy. The upper respiratory infections, pneumonia, some of the general infectious processes, and coronary disease are the important instances of this group. In cases in which doubt exists in the differential diagnosis, when the alternative condition is one of these, delay is often far safer than operation. In this type of problem, the surgeon's experience and sagacity are all-important.

In others of the group operation may do no harm. Let me illustrate by the story of a recent case. A medical student had been under observation several times for right lower quadrant pain. His findings were suggestive but never typical of appendicitis. He was seen in and between two acute attacks. He had a few white cells and a few red cells in his urine, and a leucocyte count rather higher than his symptoms and signs of appendicitis would justify. The differential diagnosis between urinary infection and appendicitis was never clear. As his symptoms subsided promptly under observation, he was allowed to leave the

hospital without operation. On his third attack, the picture was no clearer than before. Pain in the right lower quadrant with diffuse tenderness and no spasm, nausea, a leucocyte count of about 18,000 and a temperature of 100 degrees F., completed the syndrome. Except for the same findings in his urine as before, no other abnormal findings were made. In this instance it was felt that appendicectomy would carry with it no danger greater than that of laparotomy and that the removal of the appendix would clear the way for more definitive diagnosis and treatment. In spite of the removal of an appendix that showed only slight pathological evidence of disease, I believe that the proper course was pursued. This patient, of course, had had a complete study for chronic abdominal symptoms in the interval between attacks, without evidence of disease of the appendix or of other organs. An exploration at the time of appendicectomy confirmed the absence of gross disease of other structures.

A case that illustrates several of the matters we have been considering deserves brief mention. The patient that presents acute abdominal symptoms after injury is frequently one of the most puzzling we have to deal with. A man of 44 years was thrown against the steering-wheel of his automobile, striking the region of the xyphoid. He was admitted to the hospital 30 minutes after the accident. There had been no unconsciousness and no vomiting. Examination showed a contusion in the region of the blow, a fracture of the nose, a lacerated wound over the right tibia, later found to be associated with an incomplete fracture, and multiple abrasions of the hands. The patient was extremely restless, complaining bitterly of pain in the epigastrium and in both hypochondria. There was no appearance of shock. The pulse rate was 70, the rectal temperature 98 degrees F. There was marked tenderness and spasm in the epigastrium. The rest of the abdomen showed voluntary rigidity. Compression of the thorax laterally produced pain, but no skeletal deformity or crepitus was made out. There were no signs of free fluid, and the extent of liver dullness was normal. No evidence was found of injury to the spine. The examination of the lungs showed no evidence of fluid or consolidation. All reflexes were normal. The urine contained a very few red blood cells. Forty-five minutes after injury

the leucocyte count in the blood was 11,200.

The problem presented by this man was that of the lower thoracic injury which so often produces abdominal signs. At the time he was first seen, there were numerous data against rupture of an abdominal viscus. The normal pulse rate, the slight elevation of leucocyte count, the absence of nausea or vomiting and the localization rather than generalization of rigidity were inconsistent with marked intra-abdominal injury. Furthermore, in the presence of a possible contusion of the heart or lung, operation would unquestionably be more dangerous than under ordinary circumstances. The reasons for placing this man under observation were obvious; they fulfilled the requirement that they could be clearly stated.

Observation was instituted in the manner described. In the course of four hours his leucocyte count rose to 20,000 and his pulse to 96. Rigidity in the abdomen varied. Just before operation it was probably less than at any time. The patient continued restless, but there was no shock and he did not appear sick or anxious. He did not vomit. There was variable tympany over the liver region.

During the four hours there was, of course, opportunity to carry out rather more detailed examinations, which with one exception added no further information. The patient was placed under the fluoroscope and it was thought that a bubble of gas could be seen between the liver and diaphragm. Negative information of great value was furnished in the normal appearance of the lung fields.

The following note was made at this time: "In spite of the patient's good general appearance and the improvement in the abdominal signs, it does not seem wise to observe the patient longer. There is nothing in the picture to explain the leucocytosis and possible gas under the diaphragm except visceral rupture." The presence, of course, of a true pneumoperitoneum as shown by X-ray is definite evidence of this injury. In the present instance the radiographer was uncertain.

On exploration, no injury was found and the patient made an uninterrupted recovery. Shortly after he left the hospital, he suffered from a severe pneumonia, which must be considered as a possible, though doubtful, operative complication.

The difficulties of this problem are well illustrated by this experience. Again, I think that,

although the operation showed no injury, the proper method of handling the case was employed. It was safer to have operated and found nothing than to have run the real risk of visceral injury. If visceral injury had been present, the delay of a few more hours would probably have meant an established peritonitis. The surgeon often has the feeling in facing such a problem that decision in either direction will be wrong.

The "acute abdomen," representing an infinite variety of disease, is a vast subject of infinite complexity. It has been discussed from many angles by many men. In the last analysis, its successful handling is a matter of surgical judgment. Nothing much can be written in a short space that will help in solving the problem that any individual case may present. The greater one's experience and the more one contemplates the subject, the more complex does it become. I have tried rather to indicate a method of approach to the individual case than to attempt the impossible, a clear-cut picture of a syndrome with a thousand variations. Perhaps I have succeeded in pointing out only the difficulties and thus confusing the issue still further. If I have made one point, I am content, namely, that in no other group of conditions are honest, conscientious, complete and intelligent anamnesis and examination more fully repaid than in the group of surgical emergencies in the abdominal cavity.

TREATMENT OF INFECTED ABORTIONS.*

By SOUTHGATE LEIGH, M. D., F. A. C. S., Norfolk, Va.

It has come to our notice of late that, on account of the stress being laid during the past few years on the so-called conservative treatment of abortion, many of the younger members of the profession have arrived at the conclusion that the expectant treatment should be followed in *practically every case, regardless of the condition of the uterine contents*, or the presence or absence of complications.

This position has seemed to us to be such an unwise one that we have looked up the literature, both domestic and foreign, and have been much impressed with the various and divergent opinions expressed. The only unanimity of opinion is in the case of hemorrhage, where all agree that prompt and ap-

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propriate steps have to be taken to prevent depletion.

Clauser, a German, states as follows: "Every febrile abortion must be terminated without delay by removing all the retained fragments. The sooner this is done, the more favorable the prognosis. A conservative therapy is only justified in acute peritonitis and general sepsis. The active therapy gives excellent post-operative results, shortens the stay of the patients in the Clinic, and makes them able to work in the shortest time. The termination should not be made manually, but instrumentally, using an abortion forceps for the detached fragments and a blunt spoon for the adhering ones. It should be done by an experienced surgeon or practitioner."

Rovin, a Swede, favors waiting. He thinks there is no doubt that the danger of spreading the infection from active measures is graver than the danger from the focus of infection lying quietly in the uterus. The latter allows the production of antibodies against the infection.

Paci, an Italian, states that from statistics and his own results he is convinced that remnants of placenta and membranes left in the uterus are excellent culture media for bacteria, so he thinks curettage is indicated, and the sooner it is performed, the better the results. . . . He thinks there is a certain percentage of cases of septic abortion in which death will occur under either active or conservative treatment, the death depending on the severity of the infection, and not on the method of treatment. And women who are very anemic are less resistant to infection because of the weakening of their defense reactions.

Becker, a German, favors radical treatment.

Kustner, also German, states that "two diverging powers must be weighed, when one has to decide whether or not an infectious focus, for instance, retained material of an abortion, should be removed. The two forces are the virulence of the microorganism and the resistance of the individual." . . . "Differences of opinion result from the different attitudes of investigators. Some fear a decrease in the resistance of the patient, others an increase of the power of the exciting parasite. The author is convinced that the essence of virulence is the balance between the two powers; that of the host and that of the microorganism, but he regards the increase of

virulence as a great danger, especially in febrile abortion. Waiting too long, one risks allowing the decaying tissue to increase the virulence of the streptococci to such a degree that, after penetrating into the blood, they cause a serious general infection. The penetration into the blood can scarcely be avoided, because it is favored by trivial noxae, such as restlessness of the patient, intestinal peristalsis, slackening of the contractions of the uterus due to the toxic paralysis, etc. Fearing this sudden (explosive) entrance of 'virulent' streptococci, the author recommends the early termination of an abortion."

Robert Kessler practices the expectant treatment and administers quinine.

Schwarz, in an article on The Conservative Drainage Treatment of Febrile Abortion, inserts narrow strips of gauze into the uterine cavity for drainage.

An interesting report from *Darnall*, of Atlantic City, on "Abortion," says, "At one extreme are the watchful waiters who advise letting the patient absolutely alone, expecting nature to expel every thing and relieve the patient. At the other are those who would curette at once every patient. I have never been able to get my consent to allow a patient to go on with a foul stinking mass of necrotic placental material remaining in the uterus from day to day, inviting septic infection, subinvolution of the uterus and possible destruction of the appendages. . . . In the severe cases the type of infection is usually a virulent streptococcus. Oftentimes the uterus will be found to contain nothing, but if there should be a mass of placenta present, is it good judgment to leave it there to act as a focus, to continue the flooding of the system with bacteria and poison the patient? To remove the mass often results in improving the condition of the patient, although sometimes the infection has progressed to such an extent that, in spite of anything that can be done, she will be overwhelmed by a general septicemia and die. . . . In the treatment of all abortions it is not so much what you do as how you do it. The sharp curette should never be used. A dull irrigating spoon, or the type of instrument devised by Hirst, of Philadelphia, may be used. There should be no attempt at scraping the endometrium. Only enough pressure should be used to dislodge the mass and bring it out. If the case be of the septic type, the

placenta should be gently picked out with forceps, or wiped out with a piece of gauze wrapped about the finger, or a dressing forcep. As little instrumentation as possible should be indulged in, and this applies even to dilating the cervix. The surface of the endometrium should then be wiped over with equal parts of iodine and carbolic acid, and a strip of iodoform gauze packed into the uterus. The method of Ill. of Newark, of packing the uterus with plain gauze saturated with 95 per cent alcohol, is also of value and gives good results."

Hannah considers septic cases of abortion serious conditions with which to contend, and that they require judgment equal to that of any grave disease. He says: "If the contents of the uterus can be removed without further injury and little or no shock to the patient, this may be considered good surgery; otherwise, it should not be attempted unless hemorrhage is sufficiently dangerous to demand it."

Tuttle writes "The treatment of septic abortion requires mature judgment. Those cases where infection has extended beyond the uterus and without evidence of retained necrotic placenta or membranes should be treated expectantly.

"Surgical treatment is difficult to standardize and no one method will apply equally to all cases."

Gelhorn favors radical treatment unless pelvic complications exist.

Novak writes "Febrile cases should be treated expectantly until several days after complete defervescence. The five day limit of Hillis is a safe one. If, at the expiration of this time, there is evidence to indicate that the abortion is still incomplete, the uterus should be emptied with the least trauma possible under the circumstances.

"Where abortion has been induced, operation should be put off as long as possible, and, if possible, it should be avoided altogether. This is all the more important where there are evidences of grave sepsis, usually streptococci, in which the septicemia should be treated, with temporary disregard of the condition in the uterus.

"Instrumental evacuation of the uterus should be avoided in the presence of such complications as broad ligament cellulitis or abscess, adnexitis, pelvic peritonitis, or pelvic abscess, although these complications may

necessitate appropriate surgical treatment in themselves."

Stuart favors an expectant course.

It should be noted that these authorities are about evenly divided between the expectant and radical methods.

In many milder febrile cases, it may be entirely safe to use a blunt irrigating spoon in removing remains of the abortion.

We have always been of the opinion that it is harmful and often exceedingly dangerous to leave putrefying substances in the uterine cavity.

Years ago when very vigorous curettage was being done in septic cases, we were most doubtful of the wisdom of such a procedure. We have often seen such a curetting repeated on account of recurring chills and fever. This course was undoubtedly wrong.

On the other hand it is hard to bring ourselves to the point of leaving decomposing flesh in the uterine cavity, which not only furnishes an enormous amount of material for absorption, but in a very large proportion of cases blocks the uterine canal and prevents the exit of accumulated septic fluids from the cavity,—and especially, if these poisonous substances can be removed without doing damage to the uterine canal, without causing abrasion of the endometrium.

There is no class of cases in which it is more important to use good old fashioned common sense. Each case must be handled for itself. No rules can be laid down. In the severe case, the remains of the conception can be pulled away with the greatest possible gentleness with the aid of a smooth ring forcep, carefully dilating the cervix if necessary. The cavity of the uterus may then be washed out with an antiseptic solution, also with extreme gentleness, this latter being repeated every twelve hours if needed. If the condition of the patient will admit, elevation of the head of the bed is wise. Every helpful means should be used to build up the patient's strength and resistance, including especially intravenous glucose.

The consensus of opinion among the articles to which we have had access was that bacteriological examination was of little help, and that the infection in the severe cases was largely streptococcic. Post-mortem examination in some fatal cases showed small foci of pus in the uterine walls. The fear of dislodging these

foci and sending them into the blood stream, and also the desire to allow the patient to build up an immunity against the infection seemed to influence some of them in favor of the expectant treatment.

The method which we advocate, and which we have practiced for years, is conservative, and we believe a harmless one. Our patients later on may require a simple curettage.

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DISCUSSION.

DR. G. B. BYRD, Norfolk: Dr. Leigh seems to have gone so thoroughly into the literature and has covered so well the various aspects of the treatment of infected abortions that it really leaves very little except to thank him for his paper and commend him for the time he has spent, for the practical knowledge he has gained, and for looking into the literature.

There are just two points I wish to mention. One is the difference between infected abortion and incomplete abortion. I sometimes think in an incomplete abortion, when the products of conception are all removed early, you simply use prophylactic treatment to prevent what would be two or three days later a septic abortion.

I think most of the infected abortions you get are criminal abortions. In other words, the woman who aborts from some natural cause, without any manipulation, is less likely to be infected than if she has been tampered with by some unscrupulous person.

As to the question of what to do with them, I think if a woman has an abortion, unless you have actually seen the products of pregnancy yourself,

she should be sent to the hospital, and if there is any question of the criminality of it, I think she should go or not be treated by you.

As to the question of what to do, I do not think you should ever use a sharp curette in an infected abortion. I think there is no harm in using a piece of gauze or anything that will pull away the products of the pregnancy, but do not use such force as to injure any of the mucous membrane that lines the uterus, because by doing so you would simply invite blood-stream infection.

Another thing I wish to mention is that in the post treatment or in the supportive treatment transfusion often plays a very important part and should be resorted to, not when the woman is in extremis, but when she still has some show and has some chance to build up and get well.

DR. LEWIS M. ALLEN, Winchester: In these cases it has been my experience that there is no bacteria at all, only a septic intoxication. Of course, those cases which are very serious and go on to death are, as Dr. Leigh said, usually streptococcus. It will give us a very good idea as to the best way of treating this uterus if we observe nature's method of healing. Nature always, in treating these infections, builds up a layer of small round-cell infiltration. A curette, or any other instrument that will take away any of the particles except those that belong to the products of conception, is apt to do harm, as Dr. Byrd called attention to, in opening up places of infection. To bring the matter to a conclusion, I personally believe that a curette is never indicated in these cases, but that the finger, the instrument that sometimes has an eye on it, should be introduced into the uterus and the inside of the uterus palpated. If there are products of conception present, these should be removed gently by the finger, if possible, or by the placental forceps; the uterus, packed with gauze soaked in alcohol, and the woman put back to bed with ice bags over the pelvis, and kept there for forty-eight hours after the fever has subsided.

GLYCOSURIA.*

By WALTER B. MARTIN, B. S., M. D., Norfolk, Va.

Before the advent of insulin and the more accurate methods of balancing the diabetic ration, the importance of accurate diagnosis in cases showing glucose in the urine was overshadowed by the greater problem of treatment. If a few cases were incorrectly diagnosed and failed to pursue a downward course to a lethal exit in the expected time, this was more likely to be set down to the vagaries of a disease whose treatment was so poorly understood than to a possible error in diagnosis. Such cases were often cited as examples of the danger of too positive a prognosis. With improvements in methods of treatment, accurate diagnosis has become of greater importance and an increasing number of patients are being found who show a glycosuria, but in whom the diagnosis of diabetes is in doubt or can definitely be ruled out. Certain cases

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of this type are here presented with some discussion of the question of differential diagnosis.

We may classify glycosuria briefly as follows:

A. Glycosuria without disturbance of sugar metabolism.

1. Constant—Renal glycosuria.
2. Intermittent—Cyclic renal glycosuria.

B. Glycosuria with evidence of disturbed sugar metabolism (Diabetes mellitus).

1. Constant—Diabetes mellitus without increased renal threshold.
2. Intermittent—Diabetes mellitus with high renal threshold.

In addition to the above, certain investigators have added a third group, namely, diabetes innocus, presenting certain characteristics of mild diabetes and certain of renal glycosuria. It is not clear on the basis of evidence so far advanced that we are justified in grouping these cases separately.

Renal glycosuria was formerly considered rare, the first case being reported in 1896 by Klempner. During the next twenty-two years only twenty-four cases were noted in the literature. With the general adoption of accurate methods of blood analysis and the greater frequency of blood sugar determinations, an increasing number of these cases have been reported. It is now generally conceded that renal glycosuria is a much more common condition than was previously supposed.

In renal glycosuria sugar is present in the urine with no disturbance of sugar metabolism. Sugar appears not from a failure of the body to adequately metabolize sugar and the consequent rise of blood sugar above the normal renal threshold, but because of the lowering of the kidney threshold below the normal blood sugar level. In an average individual we consider a fasting blood sugar of 90 to 110 mg. per 100 c.c. as normal. Following an ordinary meal this may rise to 140 to 160 mg. With most individuals it is necessary for the blood sugar to rise in the neighborhood of 180 mg. before it is excreted in detectable quantities by the kidneys. The level to which blood sugar must rise in the blood of an individual before it is excreted by the kidneys is that individual's renal threshold. Sugar may therefore appear in the urine either because of a rise of the blood sugar above the normal renal threshold or because of a lowering of

the threshold below the normal blood sugar level. The diagnosis of renal glycosuria is based on the presence of a persistent glycosuria with normal or low blood sugar findings.

CASE 76, A. J. M., age thirty-four, male, seen October 23, 1920. The patient was referred with a diagnosis of diabetes mellitus. He had consulted a physician in May, 1920, on account of abdominal pain. Sugar was found in the urine at that time and he was put on a restricted diet. Following this, the sugar cleared up and the pain gradually disappeared. In August the abdominal pain recurred and he consulted his physician, who again found sugar in his urine. During July and August he had lapsed from his diet. Treatment for one month failed to clear up the urinary sugar and he was referred to me for treatment. There was nothing of especial significance in his past history except an unusual number of acute infections. In addition to the usual exanthemata of childhood, he had had malaria, protracted jaundice, typhoid fever and influenza. His wife and two children were living and well. There was no family history of diabetes or other metabolic disease. Abstract of physical examination is as follows:

"Patient is a stockily built, muscular, well nourished young man; height, 66 inches; weight, 156 pounds. The skin is free from jaundice, scars or eruptions; no unusual pallor or sweating. The eyes react normally to light and accommodation. The teeth are worn on the crowns and poorly cared for, but appear sound. The tongue is slightly coated. There is no glandular enlargement. The chest is well formed and symmetrical. The lungs are clear throughout. The heart is slightly enlarged; the sounds are clear and normally transmitted; there are no murmurs. The pulse is regular in force and rhythm, rate 80. Blood pressure, 115/75. The abdomen is soft and relaxed. The liver edge is felt at the costal margin and the spleen cannot be palpated. There are no abdominal masses and no tenderness. The genitalia and the extremities are negative, and the deep muscle reflexes are present and normally active."

The urine, on first examination, was amber, clear, acid; specific gravity, 1020, and gave a positive reaction for sugar by the Benedict method. Acetone, albumin, and abnormal microscopical findings were absent. Blood

sugar determination showed 80 mg. per 100 c.c. of blood. The stool was negative for ova and parasites, and the Wassermann was negative. Blood examination showed 5,500,000 red blood cells, 9,000 white blood cells, with normal differential except that the percentage of polymorphonuclears was rather low (52.5). The possibility of some dehydration is suggested by the slight elevation of both the white and the red cells. The patient, before coming to see me, had been on a diabetic diet prescribed by the referring physician. He was told to go back on general diet. One week later his twenty-four hour specimen contained 1,100 c.c., with specific gravity of 1022. A strongly positive reaction was obtained for sugar and the fermentation test with yeast was positive. His urine at that time contained a trace of albumin and a few hyaline and finely granular casts. A fasting blood sugar, taken the same day, was 81 per 100 c.c. of blood. On the basis of this very low blood sugar concentration, after a week of general diet the patient was told that he did not have diabetes and that he could ignore the presence of sugar in his urine. He was seen again three years later (September, 1923). A freshly voided specimen of urine was positive for sugar and a fasting blood sugar was 114. A quantitative determination of sugar in the twenty-four hour specimen showed 67/100 per cent. He has not been back for further checkup, but I have heard from him recently and he is in good health and has developed no symptoms suggesting the presence of diabetes mellitus. This, then, is a case of renal glycosuria. With a blood sugar as low as 80 mg. per 100 c.c. he continued to secrete a small amount of sugar. This amount was not changed materially by changes in his diet. Sugar is known to have been in his urine since May, 1920—a period of nearly ten years—certainly a sufficiently long time for any latent diabetic tendency to have manifested itself.

CASE No. 652. J. L. B., age twenty, male, seen February 23, 1923. This patient came in with a diagnosis of diabetes. He stated that sugar had been found in his urine four years before, during a routine examination of urine in a hospital prior to an appendix operation. Since then he had been under more or less constant treatment for diabetes. He asserted that one physician told him that his blood sugar was high. He had apparently cooperated very poorly with his physician, and although

diets had been prescribed for him repeatedly, he had failed to follow them and had lapsed into all sorts of dietary indiscretions. He was fond of sweets and was accustomed to satisfying his appetite in this regard. The patient was an only child; his father was dead from an unknown cause; his mother was very nervous but otherwise well, and there was no history of diabetes on either side of his family. He had had diphtheria as a child and one subsequent attack of tonsillitis. He had been subject to rather frequent mild colds and his appendix had been removed four years prior to this time, following an acute attack. The patient was well developed and well nourished and showed no evident loss of weight. His general physical examination was entirely negative. It seemed hard to correlate a history of diabetes in a young man, beginning certainly four years before, at the age of sixteen, with his apparently good state of nutrition, especially in view of the fact that he had exerted no dietary restraint. His laboratory findings were interesting. The urine was acid, 1034 specific gravity, and contained 3.6 per cent sugar. Acetone and diacetic acid were negative. There was a trace of albumin, but no abnormal microscopical findings. A blood sugar taken in the middle of the morning was only 90 mg. per 100 c.c. The following day the blood sugar was checked again and found to be 86 mg. The Wassermann was negative, and the haemoglobin, red count, white count, and differential were normal. The patient was put on a balanced diabetic diet and told to report in five days. A twenty-four hour specimen at that time had a volume of 1064 c.c.; specific gravity, 1030; sugar, positive; acetone, slightly positive. His blood sugar had fallen to 64 mg. The patient complained of weakness and did not feel as well as he did before dieting. A voided specimen of urine collected at the time the last blood sugar was taken showed the presence of 3 per cent sugar. Thus, although on a strict diet, and with a blood sugar of 64 milligrams, this patient still excreted 3 per cent of sugar in his urine.

He was seen again over a year later (in March, 1924). His fasting blood sugar was then 122. The urine was strongly positive for sugar. On account of the increase in his fasting blood sugar from 90 to 122, it was thought best to determine his sugar tolerance. Ac-

cordingly, he was given $1\frac{1}{2}$ grams of glucose per kilo of body weight, well dissolved in lemon juice, on a fasting stomach. The result was as follows:

Fasting	118 mg.
$\frac{1}{2}$ hour	136 mg.
1 hour	126 mg.
2 hours	114 mg.
3 hours	108 mg.

This patient came in again in January, 1927. His urine had a specific gravity of 1030 and contained 2.5 per cent of sugar. His fasting blood sugar could not be obtained, but the blood specimen taken thirty minutes after his mid-day meal contained 136 mg. of sugar. In July, 1929, his fasting blood sugar was 109 mg. per 100 c.c. During the seven years he has been under my observation this patient has excreted sugar in large amounts and has constantly maintained a low blood sugar. He is known to have had glycosuria for eleven years, and during this time has not shown the downward tendency so characteristic of untreated diabetes. On my advice he has practiced no dietary restriction except a moderate limitation of sweets.

I have presented two cases with normal or subnormal blood sugar and very low renal thresholds. They clearly belong in the group designated as renal glycosuria. It seems probable that there is every variation of the renal threshold from such low points to normal and above. There are certain cases that will ordinarily not show sugar, but whose blood sugar may rise sufficiently high after heavy carbohydrate intake to cause sugar to appear in the urine. This may occur in the cyclic renal glycosuria when the renal threshold is below the usual level but not as low as in the two cases just reported; or, it may occur in mild or early diabetes, with intermittent elevation of blood sugar above the normal renal threshold. Both types of cases have, unfortunately, been grouped under the common name of alimentary glycosuria, although their significance is entirely different.

CASE No. 2739, H. H. K., male, age thirty-four, seen September 14, 1925. Sugar had been found in his urine four years before. His general nutrition was good. Patient stated that sugar had been inconstantly present ever since he was nine years old. A specimen had recently been examined and he was told that it contained 3 per cent of sugar. Voided speci-

men on the day of examination showed no sugar. A twenty-four hour collection, amounting to 1,425 c.c., was also sugar free. His fasting blood sugar was 107. Two weeks later a glucose tolerance test showed the following figures:

Fasting	102 mg.
$\frac{1}{2}$ hour	127 mg.
1 hour	121 mg.
2 hours	103 mg.
3 hours	84 mg.

This curve is normal and indicates no depression of sugar tolerance. Blood sugar taken two hours after a full meal was 129, and urine voided at the same time was sugar free. This patient, however, had a definite history of repeated recurrences of sugar in his urine over a period of twenty-five years. Unfortunately I have not been able to keep him under observation.

CASE No. 4062, H. C. L., male, age forty-seven, seen June 11, 1928. Sugar had been found in his urine one year before, in the course of a routine examination. Since then he had been on a restricted diet, without being able to remain sugar free. He had lost a little weight and complained of mild dizziness. His state of nutrition was good, and, except for a rather low blood pressure (105/70) and slight tenderness over McBurney's point, his physical examination was negative. There was moderate secondary anaemia (haemoglobin 76); Wassermann negative, urine negative for sugar and acid bodies, and his blood sugar was 100 mg. per 100 c.c. A few days later he was given the usual sugar tolerance test, the result being as follows:

Fasting	105 mg.
$\frac{1}{2}$ hour	140 mg.
1 hour	141 mg.
$1\frac{1}{2}$ hours	130 mg.
2 hours	109 mg.

Urine voided before the test was sugar free, while the specimen collected at the end of the two-hour period gave a positive Benedict test and fermented with yeast.

Both of these cases show sugar intermittently and both have a normal response to the sugar tolerance test. Evidence does not point to a disturbed sugar metabolism, but to a slight depression of their renal threshold, as a cause of the recurring glycosuria.

The next two cases are somewhat doubtful

but they probably fall into the group of mild diabetes.

CASE No. 2661, F. G., age thirty-seven, seen July 15, 1926. She had been rejected for life insurance on account of glycosuria. A freshly voided specimen of urine showed a reducing substance which fermented with commercial yeast. The urine gave a positive reaction for diacetic acid. The fasting blood sugar was 115. The twenty-four hour collection of urine showed no sugar. The glucose tolerance test gave the following curve:

Fasting	105 mg.
½ hour	151 mg.
1 hour	150 mg.
2 hours	133 mg.
3 hours	92 mg.

This is a borderline curve; the peak is a high normal and the drop is slow. At three hours, however, the blood sugar is well below the fasting level. This patient seems to have a slightly lowered tolerance for sugar and if her pancreatic function is overstrained by dietary abuse she would probably develop definite diabetes.

CASE No. 2868. E. E. E. Male, age thirty, seen November 12, 1926. Two weeks previously he had been rejected for life insurance on account of sugar in his urine. A freshly voided specimen was negative for sugar, and the blood sugar, taken during the mid-morning hours, was 104 mg. His glucose tolerance curve, however, was suggestive of lowered tolerance.

Fasting	103 mg.
½ hour	149 mg.
1 hour	140 mg.
2 hours	120 mg.
3 hours	120 mg.

The peak is rather high, and in three hours the blood sugar has not returned to the fasting level. This patient had been a heavy eater of sweets and it is probable that he has broken down his tolerance by dietary excesses. He has been kept under observation for three years. He has been allowed a general diet except for a restriction of sugar and a moderate limitation of carbohydrates and of the total diet. His fasting blood sugar over this period of time has ranged from 102 to 117.

The next two cases are introduced as examples of true diabetes, masked by an unusually high renal threshold.

CASE No. 1387, A. K. H., male, age thirty-

six, seen August 21, 1924. He came in on account of a slight elevation of blood pressure. He had had an insurance examination two and one-half years before and was told that he had a systolic blood pressure of 142. Following treatment by his family physician this dropped slightly. In January, 1924, he developed diphtheria, and subsequently his blood pressure rose to 170. At one time he was said to have shown a trace of sugar in his urine, but on many subsequent examinations no sugar was found. He thought the single occurrence of sugar was due to the excessive use of sweets. Patient felt perfectly well and was only concerned on account of increased blood pressure. His physical examination at that time was entirely negative except for blood pressure of 162/115. His tonsils had previously been removed; his teeth were in excellent condition; there was no evidence of sinus infection or other foci. The laboratory examinations showed a normal red blood count, haemoglobin, white count and differential. The Wassermann was negative. The urine showed specific gravity of 1024, with a trace of albumin and an occasional hyaline cast. His blood nitrogen was normal, and blood sugar taken two hours after breakfast was 135 mg. per 100 c.c. Stool examination showed many ova of the dwarf tapeworm. Patient was from out of town and there was no opportunity to carry out a sugar tolerance test. He was referred to his family physician for treatment and was not seen again until February 15, 1927. During the intervening two and one-half years he had remained well, with blood pressure ranging considerably lower than when first seen. About six months before his second upset he had contracted a gonococcus infection which had been treated and had apparently cleared up. Recently an examination of his urine had shown sugar, and on a number of subsequent examinations he had at times been sugar free and at other times had given a positive reaction. His physical examination on his return revealed nothing new except that the blood pressure was reduced to 138/90, as contrasted with 162/115 two and one-half years before. Three separate specimens of urine, voided at 7:30 A. M., 6:00 P. M. and 10:00 P. M., were examined. A trace of sugar was found in one specimen, but the other two were negative. Albumin and casts were absent in all three specimens, and the stool was

negative for parasites. The following day a sugar tolerance test was run, with the following result:

Fasting	153 mg.
½ hour	222 mg.
1 hour	283 mg.
2 hours	155 mg.
3 hours	94 mg.

The specimen of urine voided at the end of the three-hour period was negative. This is a rather typical diabetic curve, with a fasting blood sugar well above normal and a high, prolonged elevation. It is seen that he has a very high renal threshold, as, in spite of the height of the blood sugar, no sugar was excreted in the urine.

CASE No. 3102, L. C., male, age thirty-seven, seen March 25, 1927. He came in on account of being told that he had sugar in his urine. He had lost weight over a considerable period of time and about two months before he had been told that he had sugar in a voided specimen of urine. He was put on a diet by his family physician and since that time had shown no sugar in any specimen. The patient owned a candy shop and was accustomed to eating an excessive amount of sweets and drinking large quantities of bottled drinks. His physical examination was entirely negative except for infected tonsils. Of three specimens of urine examined, two showed a slight sugar reaction and one was entirely negative. His glucose tolerance test showed the following:

Fasting	168 mg.
½ hour	260 mg.
1 hour	283 mg.
2 hours	219 mg.
3 hours	134 mg.

It is significant that although this patient is a definite diabetic, and that the level of the fasting blood sugar is high, he does not constantly excrete sugar in his urine. It would be quite easy, in a routine examination, to overlook the fact that he had diabetes. The morning specimen, so commonly examined, was the one that contained no sugar.

CASE No. 1309, M. P. K., female, age thirty-two, seen June 25, 1924, complaining of diabetes. Sugar had been found in her urine the year before and she had been under treatment ever since. She had been losing weight and felt very badly at that time. The patient stated that under treatment the sugar in her

urine disappeared and she shortly afterward returned to a general diet. In January, 1923, sugar was again found and had recurred from time to time ever since. The patient was a very intelligent woman, willing and capable of cooperating thoroughly in her treatment. She was, however, very much discouraged, because in spite of rigid attention to her diet she continued to show sugar. Her diet had been made more and more severe, in an effort to render her sugar free, and she had lost steadily in weight and strength. When first seen she weighed only 102 pounds. Her normal weight she considered to be 130 pounds. She was complaining of polyuria, thirst, loss of weight, and general weakness. There was no question in my mind, at first, that I was dealing with a case of true diabetes. A voided specimen, obtained the first day, showed no sugar or acid bodies. The blood sugar level was 136 mg., the specimen being taken about three hours after breakfast. Two days later a twenty-four hour specimen was also clear, and the fasting blood sugar was only 110 mg. Her diet was continuously increased over a period of months and the patient began to gain in weight and strength. On November 10, 1924, sugar appeared in her urine. Prior to this, eight separate observations of the urine and blood sugar had been made. Curiously enough, although sugar free, she at times showed a definite polyuria. The twenty-four hour output varied from 1,425 to 2,850 c.c., and specific gravity from 1004 to 1016. The fasting blood sugar during this time ranged from 110 to 129. From November, 1924, to January, 1930, twelve observations were made on this patient. The twenty-four hour output has varied from 1,400 to 2,375 c.c. In all but two of these specimens a reducing substance has been present, with a total output as high as 15 grams. The specific gravity has averaged a little higher and has ranged from 1010 to 1022. The fasting blood sugar has not shown an increase, but has actually averaged slightly lower. These figures have varied from 100 to 129. The average for eight specimens of blood taken when the twenty-four hour specimen of urine was sugar free is 118, while the average of seven observations made when the urine showed sugar is 112. Fermentation tests made on the reducing substance in the urine were positive.

The glucose tolerance test was not done at

first, as I felt that she was a true diabetic and that there might be some danger of breaking down her tolerance. After a long period of observation, during which her diet was steadily increased without causing any significant change in her fasting blood sugar, it seemed probable that she belonged in the renal group. When the test was undertaken, however, she responded in a manner that indicated definitely lowered tolerance for sugar. The figures were as follows:

Fasting	121 mg.
½ hour	158 mg.
1 hour	200 mg.
1½ hours	183 mg.
2 hours	147 mg.

She is apparently a mild diabetic, with a low renal threshold, and presents some of the characteristics of both types.

The nine cases reported may be classified into five groups, as follows:

1. Those that have a persistently low blood sugar but always show a considerable quantity of sugar in the urine. These belong definitely to the group of so-called renal diabetes, or renal glycosuria. Cases of this kind have been observed over a long period of years and have shown no evidence of passing over to the true diabetic type.

2. Those cases that have a normal blood sugar level and show a normal reaction to the glucose tolerance test, but have, from time to time, excreted a detectable quantity of sugar in the urine. These cases belong in the same category as the renal glycosuria cases, the only difference being that their renal threshold is higher than those in the first group.

3. Those cases which excrete sugar occasionally but who show a tendency to a high blood sugar curve in response to the glucose tolerance test. Some of these cases can be classified only after a long period of observation, and unless it is definitely certain that they are not diabetic, they should be kept under observation sufficiently long to clear up any doubt as to their classification.

4. Cases with definitely elevated renal thresholds. In this group the blood sugar may have to rise to a point much higher than that normally considered the renal threshold, before sugar is excreted. They are true diabetics and this may be overlooked, due to the fact that the high blood sugar is not neces-

sarily associated with the excretion of sugar in the urine.

5. Cases which show some of the characteristics of both groups. They excrete sugar at a low renal threshold level but respond to the sugar tolerance test with a definitely elevated curve. The low threshold probably has a favorable effect, in that it prevents an undue accumulation of blood sugar and consequently lessens the demand on their pancreatic function.

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MALIGNANT TUMORS OF THE THYROID GLAND.

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REPORT OF CASES.

Case 1. A. G. P., female, age 56, married, was admitted to St. Luke's Hospital, July 8, 1927, complaining of goiter. There was no family history of goiter or cancer.

Eight years before admission she noticed a small enlargement of the thyroid, which had gradually increased to the present size. Examination revealed a well-developed and well nourished woman. The thyroid had a smooth, firm enlargement of the right lobe about the size of a lemon, which was freely movable. The basal metabolic rate was minus 18. At operation the single tumor was removed from

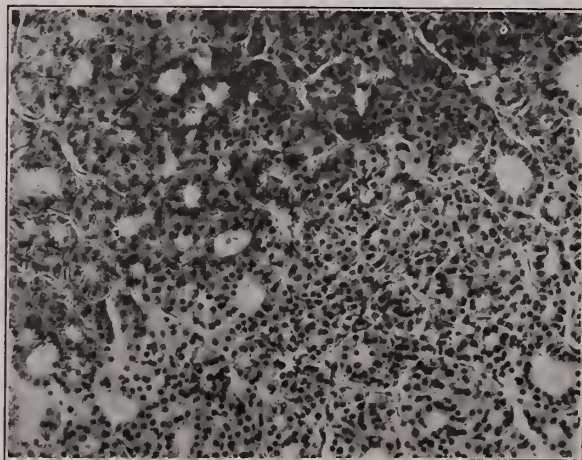


Fig. 1.—Adenocarcinoma of thyroid. Low power. Case 1.

the right lobe. The left lobe appeared normal. The pathological report was adenocarcinoma, low grade malignancy. She made an uneventful recovery and there has been no evidence of recurrence of the growth.

Case 2. L. C., female, age 52, married, was admitted to the Memorial Hospital on March 27, 1928, complaining of a lump in her neck. She had had a goiter for twenty-three years, which had during recent years remained the same size. One year ago she noticed a small lump on the left side of her neck which gradually increased in size until recently, when the growth has been rapid. There were no symptoms of pressure or of damage to the recurrent laryngeal nerve. Examination showed a well nourished elderly woman, with no essential

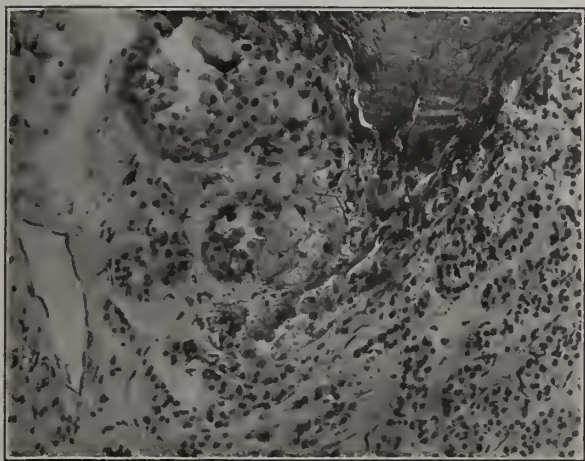


Fig. 2—Adenocarcinoma of thyroid. Low power. Case 2.

abnormality except the neck. Here there was on the left side behind the sternomastoid muscle a smooth, soft, movable mass, about the size of a lemon. There was no apparent connection with the thyroid gland which was enlarged by a nodular mass in the left lobe about the size of an egg. X-ray examination of the chest was negative.

The mass in the left side of the neck was removed, along with a section of the external jugular vein, which was adherent to it. It was well encapsulated, soft and appeared to be thyroid tissue, although there was no connection with the thyroid gland. The pathological report was adenocarcinoma of the thyroid.

The patient refused further operation and left the hospital, but returned two months later for thyroidectomy. The entire left lobe containing the firm nodular growth and the major portion of the right lobe was removed. The pathological report was that this tissue was identical with the mass previously removed, that is adenocarcinoma of the thyroid.

Following operation, she was given X-ray treatment over the neck. Her general condition has remained good, although she has a small nodule, evidently a recurrence, in the region of the left lobe of the thyroid gland.

Case 3. E. W., colored, female, age 26, single, was admitted to St. Philip Hospital July 20, 1928, complaining of goiter. She had had an enlargement of the thyroid gland for about three years which had increased very slowly in size. She frequently had a sensation of pressure in the neck. She had not lost weight.

Examination revealed a well developed and nourished young negro woman. The thyroid gland was generally enlarged and nodular, more marked on the left side. It was very firm to pressure and moved with the trachea on swallowing. The basal metabolic rate was plus 12. At operation the gland was very firm and densely adherent to the trachea. The normal thyroid markings were absent and the whole mass appeared to be scar tissue. It was removed with great difficulty, small pieces being left adherent to the trachea. The pathological report was carcinoma of the thyroid, low grade malignancy. She has remained well since operation and there is no evidence of tumor, although it was not completely removed.

Case 4. E. R. F., female, age 22, single, entered St. Luke's Hospital July 15, 1927, complaining of goiter. The family history was negative for goiter, cancer and tuberculosis. She had had a nodular goiter for about two years, which began as a small nodule and gradually increased to the present size. Along with the growth of the gland it had become very hard. She said it increased in size at the time of the menstrual periods and at times of excitement. There has been no indication of pressure on the trachea nor damage to recurrent laryngeal nerve. She has not lost weight.

Examination showed a well developed and nourished young woman. The anterior chain of cervical lymph nodes was enlarged on each side. The thyroid gland was enlarged by multiple nodules, which were very hard; the gland was not fixed in position. The basal metabolic rate was plus 3.

At operation the major portion of both lobes, including all of the nodules, was removed and the patient made an uneventful recovery. The pathological report was adenocarcinoma, low

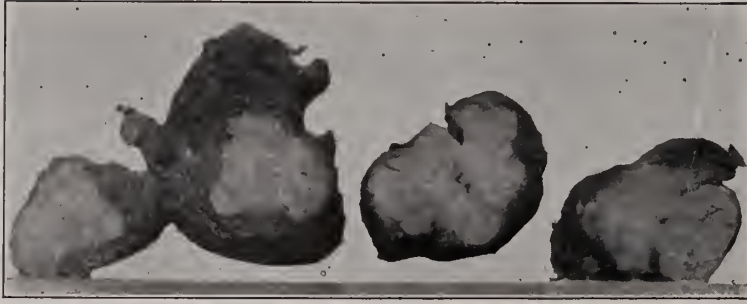


Fig. 3.—Gross appearance of tumor. Adenocarcinoma of thyroid. Case 4.

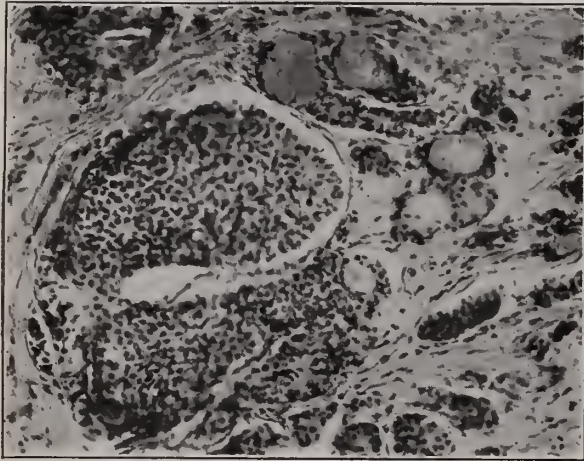


Fig. 4.—Adenocarcinoma of thyroid. Low power. Case 4.

grade malignancy. She remained well for two years, when the nodes in her neck became large and hard and her voice became very hoarse. Examination indicated a recurrence of the carcinoma. She was given intensive X-ray treatment of the neck with marked decrease in size of the glands and almost complete relief of the hoarseness. She is now in good general condition, almost five years after operation.

Case 5. W. G. S., male, age 40, married, was admitted to St. Luke's Hospital on August 6, 1929, complaining of goiter. There was no family history of goiter or cancer. Three months ago he noted tachycardia and nervousness and a little later enlargement of the thyroid gland. The nervousness and tachycardia were improved by iodine, but he had not been able to work. Examination revealed a well developed and nourished man. There was a discrete enlargement about the size of a lemon in the left lobe of the thyroid gland, soft and freely movable. There was no exophthalmos.

The pulse rate was 65. A fine tremor of the extended fingers was present. The basal metabolic rate was zero.

At operation a single adenoma was found well encapsulated; this and the surrounding gland tissue were removed. The right lobe appeared normal and was not disturbed.

The pathological report was papillary adenocarcinoma of the thyroid, low grade malignancy. At this time, seven months after operation there has been no evidence of recurrence.

Case 6. V. P., female, age 57, single, was admitted to the Memorial Hospital on August 11, 1929, complaining of goiter, pain in neck and difficult breathing. She first noticed a

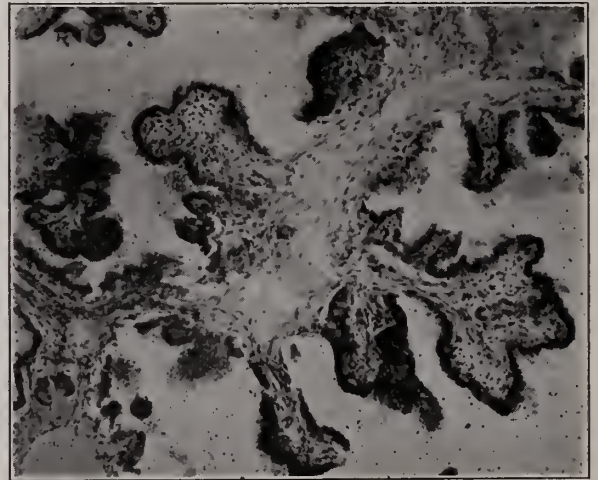


Fig. 5.—Papillary adenocarcinoma of thyroid. Low power. Case 5.

small enlargement in the region of left lobe of the thyroid gland, about two years ago; it has gradually increased in size. During the last few weeks it has been painful and she has had a sensation of pressure in her neck, which at times has interfered with breath-

ing. She has lost fifteen pounds in weight. Examination revealed a well developed but poorly nourished elderly woman. The thyroid was enlarged in both lobes, the right lobe was

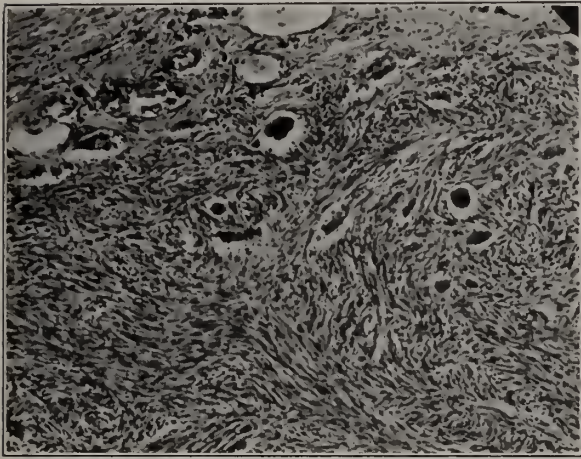


Fig. 6.—Sarcoma of thyroid. Low power. Case 6.

nodular but soft, the left lobe was about the size of an egg and very hard. The gland moved on swallowing. The basal metabolic rate was plus 4. X-ray examination of the chest was negative for metastasis. Laryngoscopic examination showed the vocal cords moving normally.

At operation the entire left lobe and the portion of the right containing the nodules was removed. The pathological report was spindle cell sarcoma of the thyroid and fetal adenoma. She recovered promptly from the operation but her general health did not improve. She was given X-ray treatment over the neck and upper thorax. She died two months after leaving the hospital of mediastinal metastases which were demonstrated by X-ray shortly before death.

DISCUSSION

The pathological changes seen in the thyroid gland are very interesting and so varied that much confusion exists and opinions are by no means uniform. The hypertrophy and hyperplasia present in different types of disease and in different phases of the same disease make it easy to understand the many differences between students of this gland. The pathological changes differ too, I believe, in different parts of this country, and in this country are certainly quite unlike the changes seen in the goiter districts of Europe. Pem-

berton quotes figures which show that the general incidence of malignant thyroid tumors is 1:928 in the United States, 1:224 in Europe, and 1:93 in Berne, Switzerland. He also gives the statistics from the Mayo Clinic that of all adenomatous and colloid goiters 2.7 per cent are malignant. This is probably slightly higher than the general average. There is no real uniformity of opinion among pathologists, I have more than once added to my confusion by getting conflicting opinions from several eminent men.

Sarcoma of the thyroid is extremely rare, in fact Ewing doubts that there has ever been a case, believing that those reported were in truth epithelial tumors with spindle or round cells.

Carcinoma may diffusely involve the gland or part of the gland but much more frequently it is an encapsulated mass in its earlier stages. Later it may break through the capsule to involve the gland more extensively and also the surrounding structures, particularly the trachea. The adenocarcinoma and papillary adenocarcinoma arise in an existing adenomatous goiter, more frequently the fetal adenoma; they are always encapsulated at first and usually less malignant.

In Pemberton's series of malignant tumors 1 per cent were sarcoma, 25 per cent diffuse carcinoma, 39 per cent adenocarcinoma, 31 per cent papillary adenocarcinoma, and 4 per cent unclassified; 70 per cent of them were graded 1 or 2 on Broders' scale. This large percentage of tumors of low malignancy accounts for the more favorable outlook for these cases than is usually supposed.

The metastases from carcinoma of the thyroid are of unusual interest. The growth may proceed along the lymph channels in the usual fashion but it is characteristic of this tumor, as demonstrated by Allen Graham in 1924, to grow into the lumen of blood channels especially the veins and thereby be disseminated to any part of the body. As would be expected, the lungs have the largest number of metastatic growths; this is followed in order of frequency by bones, liver, kidneys, pleura, and brain. I recall seeing a woman who complained of severe pain in the right leg and tumor masses were found in the ilium and femur by X-ray examination; the thyroid showed a mass of stony hardness and was undoubtedly the origin of the disease. I once

saw another woman with two large masses on her scalp thought to be sebaceous cysts; when they were removed, thyroid cancer was found but the thyroid gland appeared normal.

There are many bizarre combinations possible; there have been metastatic tumors appearing as normal thyroid from a gland obviously malignant, and malignant and apparently benign metastases have originated in a gland which appeared benign. I think it is generally conceded now that all these tumors are malignant.

There are no symptoms or signs in the early stages of a malignant tumor of the thyroid gland by which it may be distinguished from a simple nodular goiter. Later in its development the malignant tumor becomes very hard, may infiltrate the surrounding muscles and extend into the neighboring lymph nodes. At this stage the tumor is firmly fixed to the trachea and has therefore lost the mobility of the benign tumor. Between these two extremes we should suspect malignancy when the thyroid tumor is diffusely very firm or hard. The growth frequently invades the recurrent laryngeal nerve so that there is paralysis of one vocal cord or by its adhering to the trachea the patient may be hoarse without paralysis of the vocal cord. This was illustrated in Case 4.

The tumor rarely causes pain, but in Case 6 (sarcoma), pain was a prominent symptom.

Rapidity of growth is suggestive of a malignant tumor but was noted in only two of these six cases.

These patients generally are in good condition.

The diagnosis of a malignant tumor of the thyroid gland is often quite difficult, and when the signs are so well developed as to make the diagnosis easy the tumor has grown beyond the point where it may be completely removed. A large proportion of the tumors arise in a pre-existing nodular goiter, therefore a rapid growth of such a goiter without symptoms of hyperthyroidism should always be suggestive of malignancy. The tumor is usually quite hard and as it grows it tends to become fixed in position. Hoarseness from either damage to the nerve or pressure on the trachea is a prominent and frequent symptom. Loss of weight may be present as with any malignant tumor, but it is usually a late symptom. The basal metabolism is not af-

fected by the malignant growth except where the growth is so extensive as to destroy the normal thyroid tissue.

There are a number of diseases of the thyroid gland which may be confused with malignant tumors. The calcification in old goiters may be so extensive as to simulate one, but can usually be separated. Tuberculosis of the fibrous type may exactly simulate a diffuse carcinoma. I have seen examples of each which were only determined by microscopic examination. Gumma is very rare; it is of course suggested by the positive Wassermann and could be proved by a therapeutic test, but much valuable time would be lost if it were a malignant tumor, so microscopic examination after biopsy is usually necessary. I had two such cases at the Memorial Hospital some years ago.

The prognosis depends on the extent and type of the tumor and the degree of malignancy. The diffuse carcinoma is liable to earlier metastasis on account of the rich lymph and blood vessel supply; yet in Case 3, which was of this type, the tumor had invaded the whole gland and was adherent to the trachea but was of low grade malignancy and has shown no evidence of local growth nor metastasis in spite of incomplete removal.

The outlook for the patient with the malignant adenoma and papillary adenocarcinoma is better. These growths are well encapsulated and cut off from lymph channels though they may spread through the veins to other parts. Cases 1 and 5 were of this type without invasion of the capsule and they will probably remain well. Cases 4 and 2 were also of this type, but in both the growth had extended through the capsule and both have local recurrence.

In sarcoma the duration of life is short, the longest life reported after diagnosis being 17 months (Ewing). Case 6 was of this type and she died two months after operation.

In considering the treatment of malignant tumors of the thyroid, we should remember that a very large percentage of these tumors arise in pre-existing adenomas. When the two per cent liability to malignancy is added to the possibility of thyrotoxicosis and the growth of the goiter to large size, there is certainly evidence enough to sustain the rule that all nodular goiters should be removed. While it is more favorable to the patient to have

the tumor removed before the diagnostic signs are present, the condition is not a hopeless one, even when the disease is well advanced, because the tumor may be of low malignancy and be kept under control for years and even disappear after incomplete removal and X-ray treatment. When it is possible, the tumor should be entirely removed. Fortunately, these tumors are usually unilateral, so that the posterior portion of the opposite side containing sufficient thyroid and parathyroid gland to maintain normal life can be left alone. On the other hand, if the involvement is bilateral the gland should be completely removed and life maintained by administration of the glandular extracts.

When the cervical lymph nodes are involved, the condition is usually inoperable, but in some instances removal of the thyroid and involved cervical nodes has been done with surprising success. Following operation very thorough X-ray treatment is advised. This is done regardless of the possibility of hypothyroidism. The inoperable cases should be treated by radium or X-ray and will be considerably relieved. It is sometimes necessary to remove a portion of the tumor to relieve pressure on the trachea.

BRONCHIECTASIS.*

By PAUL F. WHITAKER, M. D., F. A. C. P., Kinston, N. C.

According to McRae, cases of bronchiectasis are now more often recognized, or the disease has become more frequent. The former statement is mostly likely true, for, with the advent of bronchoscopy, renewed interest has been stimulated in the diagnosis and treatment of tracheo-bronchial and pulmonary conditions; and the common clinical teaching that bronchiectasis is relatively uncommon is proving to be a mistake. To my colleague, Dr. Peery, after his recent course in Philadelphia, goes the credit for stimulating our interest at the Kinston Clinic in bronchiectasis, and making us more cognizant of the fairly common occurrence of this condition.

ETIOLOGY AND MECHANISM OF PRODUCTION

In considering the etiology of bronchiectasis numerous factors must be taken into consideration. It is practically always a secondary affection and may be traced to some preceding disease of the bronchi, lungs, and pleura, and,

in the light of recent work, to disease of the nasal accessory sinuses. Among the chief affections that may be etiological factors in its production are sinus disease, measles, whooping cough, scarlet fever, influenza, acute and chronic bronchitis, lobar or broncho-pneumonia, foreign body in the tracheo-bronchial tree, stenosis of a bronchus, either by compression from without, as by a tumor, or a growth in the wall, as in syphilis; tuberculosis, fibrosis of the lungs, inflammations of the pleura, compression of the lungs by either serous or purulent effusions, lung abscess, and long exposure to organic dusts. It may in rare instances be a congenital affection. As an etiologic factor sinus disease demands more than passing mention. It is common clinical observation that chronic bronchitis is often associated with, or even preceded by, disease of the nasal accessory sinuses, and that treatment of the sinusitis exerts a favorable influence on the bronchitis. The workers at the Jackson Clinic, notably Clerf, have called attention to a large series of cases in which sinusitis and bronchitis are associated. Granting that bronchitis is one of the chief causative factors in bronchiectasis, and that bronchitis is often etiologically associated with sinus disease, it is logical to assume that bronchiectasis must be closely allied etiologically with sinusitis. Mullin, in experimental work on animals, has established a direct lymphatic route between the para-nasal sinuses and the bronchi and the lungs, and concluded that infection may take place through this lymphatic route, or through inhalation of infectious material escaping from the sinuses into the nose.

The mechanism of the establishment of bronchiectasis may be briefly summed up as follows: It may be brought about, intrinsically, by a condition acting directly through a bronchus or, extrinsically, by a cause external to a bronchus. Chronic bronchitis may be used as an example of an intrinsic cause. The long standing inflammatory process tends to weaken the bronchial wall, and, as the result of prolonged and severe coughing, the weakened wall is unable to resist the pressure of air and hence dilates. Another factor is the mechanical plugging of the bronchi by catarrhal secretion. A pleural effusion may be used as an example of an extrinsic cause of bronchiectasis. It mechanically causes a compres-

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sion of the lung, and, if allowed to remain, a connective tissue proliferation occurs in the collapsed lung. This deprives the bronchi of their normal support, and the distending force of the cough, acting on bronchi deprived of their normal support, results in dilatation.

ANATOMY

Anatomically, bronchiectasis may be unilateral or bilateral. It may involve one lobe or several lobes. There are two types of dilatation, the cylindrical usually involving the larger bronchi, and the sacculated more often involving the terminal bronchioles. A combination of the two types may occur in a single case. The lower lobes are most commonly involved, particularly in the non-tuberculous type. Apical bronchiectasis, however, occurs and is fairly common in the tuberculous form. Changes in the lung tissue around the affected bronchi naturally occur. These may be briefly stated as follows: The surrounding tissue is either slightly condensed by pressure, hardened by chronic pneumonia, rarefied by emphysema, or perfectly natural.

Changes in other organs take place. Dilatation of the right heart may occur as the result of obstruction in the pulmonary circulation. Abscess of the brain frequently has its origin in bronchiectasis, and changes in the liver, kidneys, and joints may result from toxic absorption. Clubbing of the fingers and toes is seen in the most extreme form in bronchiectasis.

SYMPTOMS

In the early cases the symptoms are often masked with the disease acting as an etiological factor, and the presence of bronchiectasis may not be suspected. In a small proportion of cases the diagnosis can be made from two symptoms, namely, a paroxysmal cough, which may occur from two to three times a day, and the expectoration of large quantities of purulent sputum, which may or may not be fetid. Coughing paroxysms are most marked in the morning, and again at night, when the patient lies down. Change of position will often produce the cough. The cough may be easily productive or the sputum may be raised with difficulty. When the sputum is placed in a vessel, it separates into a thick granular layer below, with a thin mucoid layer above. The mucoid layer is capped by a brownish froth. Haemoptysis may or may not occur. As the

disease progresses, dyspnea and cyanosis occur as the result of failing circulation, and in the advanced cases there is marked clubbing of the fingers and toes. In spite of the constant stagnation of septic material in the bronchi, constitutional symptoms are relatively uncommon. One of our moderately advanced cases, however, had frequent attacks of hyperpyrexia with cough, chills and profuse sweats, dating back to an attack of influenza five years before. Basal physical signs in a quiescent period led us to suspect bronchiectasis, which was confirmed by X-ray after bronchoscopic instillation of lipiodol.

PHYSICAL SIGNS

The associated conditions are so varied that the signs naturally vary greatly, and the signs on inspection, palpation, and percussion are influenced by these factors. Dilatation near the surface yields a tympanitic note, but the signs may vary as the cavity is empty or filled with secretion. On auscultation, practically every variety of rale may be heard. In diffuse early cases they have an intense crackling quality. If the bronchiectasis is superficial, then cavernous breathing may be heard. The main point to be remembered is that the physical signs usually occur at the base of the lungs.

X-RAY

The characteristic picture in a well advanced case is the extensive thickening of the lung markings along the course of the larger bronchi, which is usually seen to radiate from the hilum to the base; enlargement of the hilum glands, and the presence of increased areas of density in the lung fields near the bronchi. There may be considerable difference in the appearance of the film before and after evacuation of the cavities. Emphysema is usually present in long standing cases. In early cases the diagnosis is very difficult without the injection of lipiodol into the bronchi. Direct inspection through the bronchoscope in the hands of an experienced observer yields signs helpful in making a diagnosis.

DIAGNOSIS

Bronchiectasis must first be differentiated from tuberculosis. The main points of differentiation are that, in the former, there is a long history of cough and expectoration, which may last for years, the localization of signs in the lower half of the chest, and the

absence of tubercle bacilli in the frankly purulent sputum. Clubbing of the fingers is comparatively rare in tuberculosis, but practically constant in bronchiectasis.

Chronic bronchitis usually is associated with bronchiectasis in some degree, and the reverse is also true. X-ray after injection of lipiodol will serve to differentiate chronic bronchitis from bronchiectasis.

Abscess of the Lung: While bronchiectasis is a chronic condition, pulmonary abscess is a fairly acute one. In the majority of cases the patient is acutely ill, or has recently recovered from an acute illness. The characteristic feature in abscess of the lung proximal to a bronchus is the sudden expectoration of a large quantity of muco-purulent material with a peculiar sweetish odor. This odor is particularly characteristic. In cases of small chronic abscess the distinction is difficult. The use of the X-ray and diagnostic puncture of the chest is here indicated, and, as abscess of the lung is cured by proper drainage, exploratory operation may be justified.

Loculated Empyema: An encysted empyema, especially when situated between the lobes of the lung, may rupture into a bronchus. Under these conditions, it is essentially the same as pulmonary abscess and the same methods of differentiation should be used.

Pulmonary gangrene is usually sudden in onset, and may be one of the sequels of pulmonary infarct, tuberculosis, broncho-pneumonia, or spirochetal bronchitis. If gangrene occurs in bronchitis of long standing, the two may be very difficult to differentiate. The presence of elastic tissue in the sputum would be in favor of gangrene.

TREATMENT

A survey of the literature reveals a multiplicity of measures recommended in the treatment of bronchiectasis, ranging from simple postural drainage to lobectomy and thoracoplasty. The treatment, both medical and surgical, is, as a whole, unsatisfactory. In the cases that we have under observation, we are following the principles suggested by Burrell, using the simpler measures first. The patient is placed on five drops of creosote three times daily, and taught how to practice postural drainage. All foci of infection, particularly in the nasal accessory sinuses, are removed, and every effort made to improve the patient's

general health by tonics, sun baths, violet ray, and cod liver oil.

Autogenous vaccines are of value and should be given. Bronchoscopic drainage is helpful and should be carried out whenever possible. It certainly makes the patient more comfortable. The cavities usually fill up again, but cases have been recorded where eventually the cavities have become dry and the improvement permanent. Many patients have led a fairly comfortable life on the above regime. With the surgical treatment of bronchiectasis I have had no personal experience. The surgical measures recommended are numerous, including artificial pneumothorax phrenic evulsion, thoracoplasty, pneumolysis, incision and drainage, cauterization and lobectomy. According to Burrell, he has had the experience of having some of his patients go through with as many as five of these procedures, and then have to be content with simple postural drainage.

From this summary of therapeutic measures used in the treatment of this condition, it can be seen that, as in many other conditions, it is more easy to prevent bronchiectasis than to treat it. Careful handling of diseases acting as etiologic factors, and, above all, the successful interpretation of the causes, together with the treatment of chronic cough, will largely prevent the occurrence of this condition.

SUMMARY AND CONCLUSION

1. Bronchiectasis is of fairly common occurrence, and the medical man should keep it constantly in mind in differential diagnosis of chest conditions.

2. Numerous conditions are etiologic factors in its production, but, in the light of recent knowledge and experimental work, sinus disease is probably the most frequent. Foreign bodies, however, should always be considered.

3. Careful analysis of the history, symptoms, and physical signs, together with X-ray, bronchoscopy, and intra-tracheal insufflation of lipiodol, should be done before arriving at a diagnosis.

4. Bronchiectasis is more easily prevented than treated, and every case of chronic cough should be exhaustively studied and treated. In the established cases, simple measures, such as creosote and posture, should be given thorough trial before more radical measures are resorted to.

5. A well established case of bronchiecta-

sis merits, and should receive the cooperative judgment and treatment of the internist, the thoracic surgeon, the bronchoscopist, and the roentgenologist.

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POLYCYTHEMIA—A BRIEF REVIEW OF THE LITERATURE WITH A CASE REPORT.

By HAROLD W. POTTER, M. D., Newport News, Va.

Two types of polycythemia are described. Relative and absolute. The first sometimes means only a blood concentration as that resulting from loss of fluid. It may also occur as a result of stasis and concentration of red cells in the blood channels. The second type is erythremia, considered by some a distinct clinical entity, and characterized by a striking and excessive increase in erythrocytes and by splenic enlargement which is often extreme.

Osler¹ states that Vaquez' disease is probably not a definite specific disease but that it is a syndrome with varied etiology and pathology. There is one type associated with syphilis of the pulmonary arteries in which the etiology is definitely luetic. This type of erythremia is known as "Ayerza's Disease or Syndrome."

In the relative type we find polycythemia in persons residing in high altitudes or aviators, in stasis of blood in congenital heart lesions and emphysema of the lungs.

In the types due to high altitudes it is easily seen that the blood concentration here is an adjustment by nature to meet the need

for concentration called for by the rareness of the air and dyspnea.

In cases due to stasis in organic heart lesions, emphysema and stenosis, the pathology calling for concentration is easily understood.

PATHOLOGY: In the absolute type the pathology is apparent chiefly in the bone marrow. Congestion, a deep red color and bloodiness of the marrow is seen. The spleen is seen to be enlarged but not structurally changed. Naegeli has emphasized the dark red bone marrow in polycythemia vera. Halir² reporting the autopsy of a case, found multiple scars after infarct of the spleen and believes that the loss of function ensuing was an etiologic factor in this case.

ETIOLOGY: The etiology of the relative type is physiological in cases of aviators or persons in high altitudes, or mechanical in cases of congenital heart disease, stasis and emphysema.

The etiology of the polycythemia vera is not known. Some cases are apparently familial. Hottenger³ in a paper on "Polycythemia in Childhood," describes a family in which six of thirteen children had polycythemia, one of the normal children was used as a control and the cases followed for a number of years. Intercurrent tuberculosis and dysentery was the cause of death in most of these children. The real etiological factor is not known. But some pathological condition of the bone marrow is undoubtedly the direct cause.

SYMPTOMATOLOGY: The relative type is characterized by feeling of fullness in the head, nose bleed and headaches; often nausea, vomiting and dizziness. The absolute type is insidious in onset and the first symptom may be redness of the mucous membranes and a red cyanosis of the skin. Laziness, malaise and sometimes real exhaustion develop rapidly. Nose bleed is rare in this type. Dyspnea is usually present; fever not present. Digestive upsets are common. The spleen is found markedly enlarged. Liver is usually enlarged. Hottenger in his report, mentioned previously in this article, found that in 4 cases the basal metabolism was increased as was the CO₂ combining power. Normal values were found for the oxygen fixing capacity of the hemoglobin and the carbon dioxide content of the

2. Halir, Otto, The Erythrocytoses. *Wien. Arch. F. Inn. Med.* 13—407-416, 1927.

3. Hottenger, A. Polycythemia in Childhood—*Ztschr. F. Kinderhik*, 44:61-86, 1927.

1. Osler, Principles & Practice of Medicine, page 251, "Erythremia."

plasma. Also the blood sugar, liver and kidney function tests gave normal values.

THE BLOOD: In the relative type the total count is increased markedly or excessively. The white count may be increased also. The hemoglobin may be increased or normal. In cases of polycythemia vera the highest count reported is 14,800,000 per cubic millimeter.

Halir's case had a red count of 9,020,000 with a Sahli hemoglobin of 125, color index .69. The white count reached 18,000 with a normal differential count.

Hottenger's reported cases ran: 12,740,000—Hbg. 135 per cent; 10,900,000—Hbg. 177 per cent; 11,390,000—Hbg. 150 per cent; 13,600,000—Hbg. 185 per cent; 13,200,000—Hbg. 179 per cent; 12,000,000—Hbg. 132 per cent. Blood pressure was normal in each case.

In the two cases reported from personal observation by Hottenger, both in children, one had a red count of 6,500,000 per cubic m.m. with 120 per cent Hbg. and 7,000 white cells. The second had a red count of 5,700,000—103 Hbg. 9,000 white cells.

Hyperglobulia seems to be the rule in this symptom complex. A few nucleated reds may be found in this disease and occasionally myelocytes. Anisocytosis and polychromatophilia may be seen. The coagulation time is variable. The color index low and blood platelets variable. The volume of blood put out by the heart is apparently not increased.

DIAGNOSIS: Diagnosis depends on the patient's appearance, enlargement of the spleen and the blood picture. It may be impossible to differentiate the relative and absolute types in some cases in the absence of congenital heart lesions, history of altitude or emphysema.

PROGNOSIS: In the relative type, the prognosis depends on the cause. It is good in the altitude types. In the cases due to emphysema or congenital heart it depends on the extent of involvement of the structures attacked.

In the absolute type the prognosis is bad for cure. The condition is slower, remissions may be long, but are even then only partial. Intercurrent disease usually causes the patient's death rather than the disease itself.

Greene⁴ cites a case still living nine years after the diagnosis was made and still able to work.

TREATMENT: All authors agree that splenec-

tomy should not be attempted on the absolute type.

In the relative type symptomatic treatment with change of altitude, relief from flying duties in aviators, cardiac supportives in the congenital heart cases, are the lines to be followed. Phlebotomy is reported to have relieved some cases. In the absolute type authors vary in their results with roentgenization and radium. Osler and C. L. Greene report that it is of no particular value. Halir in his case report states that roentgen irradiation always brought about improvement, which lasted once nine months.

The thighs front and back and each forearm were irradiated, 36H being given each time in two separate treatments. Later the ribs and sternum were irradiated. Subcutaneous injections of physostigmine salicylate have been used, the dose being .001 every other day. Little result is reported.

Benzol is of value but great care must be employed in its use. Impotency, which is very troublesome to the patient, is frequently the result. Hottenger used phenylhydrazin in his case and advises against its use on account of the accumulative effect.

Benzol when used is used in doses of 1 c.c. three times a day increasing to 4 c.c. The blood count is used as a guide.

A CASE REPORT

The case reported here is one which after study of the literature does not seem to fall into either of the two classifications described heretofore. However, it probably belongs under the relative group although no etiological factor has been determined. It demonstrates the difficulty encountered in trying to classify the polycythemias.

The patient is a white female aged twenty-seven years. Occupation trained nurse. Married, has one child, nationality Irish. Residing at time of onset in Paris, France.

Family history: Revealed no history of polycythemia in any of the family. Mother, one brother and sister living and well. Father died of pneumonia.

Previous personal history: Usual childhood diseases with no sequelae. No other illness. Never lived in high altitude.

Present illness: The onset occurred while patient was in Brittany in September, 1925. She was then twenty-three years of age. She

4. Greene, C. L. Tice's Practice of Medicine, Vol. VI, Chap. IV, page 865.

suffered from headaches, faint feelings and vomiting. Shortly after the onset the patient had a severe spell of light headedness and lost consciousness for several hours. Following this she had little trouble for a month, when a sensation of palpitation of her heart began to trouble her. She again became faint and dizzy at frequent intervals. She had another fainting spell, losing consciousness for several hours. She had returned to Paris and was at the Ameican Hospital at this time and was given bed rest for several days. She noted that she was losing weight. She was shortly thereafter admitted to the hospital and a blood count was done as part of the routine and the red count was 9,000,000 red cells per cubic m.m. The white count 12,000, Hbg. 95 per cent. She noticed some blueness of her hands but no red flush.

Red counts were done every other day for a month and ranged from 9,000,000 to 10,500,000. The white count ranged from 12,000 to 17,000.

Physical Examination: Head and neck—negative. Chest (by Dr. Armand De Lille) showed no evidence of pathology. X-ray of chest—negative. Heart sounds of good quality rate and rhythm, no murmurs. No sign of congenital heart lesions. Abdomen and extremities—negative. No enlargement of spleen. Diagnosis from physical examination—negative.

Neurological examination by Dr. Claude—negative, except for instability of vagus nervous system. Patient had lost twenty pounds since the onset of the symptoms. Bordet Wassermann—negative. Spinal Puncture—Fluid normal. From the blood count a diagnosis of polycythemia, type undetermined, was made.

Treatment used was bed rest, bellafoline and gardenal in shall doses.

Progress of Case: The patient improved and left the hospital for a vacation on the Riviera. The red count was at this time 8,000,000 per cubic m.m. She stayed in the south of France for five months. On her return to the hospital her red count was 6,500,000 per cubic m.m. It remained at this number for some months and then dropped to 5,000,000.

Since 1926 the patient has not had any symptoms referable to the illness described above.

In March, 1929, she was operated upon for chronic appendicitis. The red count at this time was 4,800,000 with a white count of 14,000. In August, 1929, she was delivered of a normal male infant. Following this she had a pyelitis and a blood count was done. The red count was 4,850,000 and the white count 7,000. No fainting, dizziness nor vomiting has occurred since 1926.

COMMENT

This case of polycythemia does not appear to belong to the class known as polycythemia vera in as much as the spleen was not enlarged and the dusky red color was absent. The period of freedom of symptoms three years seems rather long for a remission. This would not be suggestive of Vaquez' disease.

On the other hand, no etiological factor could be determined in this case, yet it cleared up under symptomatic treatment and so far has not recurred.

This case is of interest because it does not appear to fall under either of the types described in the literature.

70 33rd Street.

PERINEORRHAPHY WITH LONGITUDINAL SUTURES.

By M. PIERCE RUCKER, M. D., Richmond, Va.

The tendency in immediate perineorrhaphies is toward shallow perinei, the extreme of which is the so-called *dash-board perineum*. The reason for this is twofold: (1) often only the outer part of the wound is repaired; (2) the perineal body is stretched to almost paper thinness before it tears or before an episiotomy is done. When it is repaired with transverse sutures, this thinned out condition of the structure is preserved to a more or less extent.

With interrupted sutures, one never knows just how tightly or how loosely to tie them. In other words, it is hard to know how much to allow for the swelling that is sure to occur. If the sutures are tied too loosely, one does not get primary union, and if they are tied too snugly, they cut and pain the patient when the tissues swell. Knots and tight sutures are especially objectionable in deep second degree and in third degree lacerations.

The longitudinal suture of silk-worm gut obviates these difficulties. There are no knots. The sutures accommodate themselves to the

swelling as it occurs. There is no cutting of the tissue by the suture. The patient is much more comfortable, and the perineum afterwards is thick and firm.

The method of placing the sutures can best be followed in repairing a median episiotomy. The median episiotomy leaves a V-shaped furrow that is deepest at the muco-cutaneous junction; the furrow tapers off to nothing in the vagina and on the skin surface just above the rectum. The first suture is started high up in the vagina above the upper end of the wound. It is carried from side to side of the trough as a running suture, co-apting the deeper structures, i. e., levator fibres, and brought out through the skin to one side of the lower end of the wound. The next suture, parallel to the first, brings together the deep fascia. In this way, the perineum is built up layer by layer. The last suture is a submucous and subcutaneous one. The upper ends of the four or five sutures are passed through a perforated shot, and the shot is mashed tight upon these some one-quarter of an inch from the mucous membrane. The sutures are cut flush with the upper edge of the shot. In the same way, the outer ends are secured about one-half an inch from the skin surface.

The outer portions of the sutures are clipped close to the skin on the fourth or fifth day, after first painting them and the adjacent skin with tincture of iodine. The remaining portions of the sutures are removed at the post-partum examination. Lateral episiotomies and lacerations are repaired in the same manner, except that sometimes I use No. 2 chromic cat-gut instead of silk-worm gut for the deeper sutures in repairing a complicated laceration for fear of "locking" them.

Since I have adopted this technic, my patients have complained less of their stitches. The results have been uniformly excellent. I am of the opinion that the longitudinal sutures "hold" better. This was strikingly illustrated in a recent case.

The patient came into the hospital after the membranes had ruptured, with a high fever. There was uterine inertia. After twenty-four hours, I did a difficult delivery, and there was a third degree laceration. Her temperature then was 104. I repaired the perineum in accordance with the technic recently described by Royston.* On the seventh

day, the patient had a stool and the sutures gave away. The next day, I cleaned up the wound with mercurochrome and repaired it with longitudinal sutures of silk-worm gut, with a perfect result.

THE USES AND ABUSES OF MEDICAL AND SURGICAL DIATHERMY IN GYNECOLOGY.*

By EUGENE L. LOWENBERG, B. S., M. D., Norfolk, Va.

Diathermy or high frequency refers to an oscillating current which flows in alternating directions, much more rapidly than the commercial, or low frequency currents. The name "diathermy" means electro-thermal penetration or "through heating." It is applied to high frequency currents, because it is their peculiar property to cause marked elevation of temperature in tissues through which they pass.

There is nothing new or unusual about the use of high-frequency currents in medicine. Tesla, in 1891, first suggested their use to produce heat within tissue, and from that time to 1910 much was written on the subject. But only recently have we come to realize that it holds a very definite place in our scientific armamentarium. The apparatus consists of a transformer, a spark gap, and a condenser which step up the voltage, and greatly increase the frequency of the commercial current. The form of current thus produced is similar to that used in wireless telegraphy. In the latter, the air offers but slight resistance to the current, but when the current is introduced into the human body, the resistance offered dampens the rapidly oscillating impulses, converting their energy into heat. Eberhart's Physiotherapy Chart (Fig. 1) illustrates the relation of diathermy to the other electro-therapeutic modalities. When a high frequency current is passed between a large indifferent electrode, usually a piece of block tin, and a small or point electrode, the intense heat causes tissue destruction, and this is referred to as "surgical diathermy." By varying the proportion of voltage to amperage, three forms of surgical diathermy are developed—the Oudin, or high voltage and low amperage current producing the so-called "cold spark" for desiccation; the Tesla, or medium voltage, medium amperage current, producing a spark which burns and is used in fulguration; and the D'Arsonval, or low volt-

*Royston, G. D.: Repair of Complete Perineal Laceration. *Am. J. Obst. & Gynec.*, 19:185, 1930.

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1923.

PHYSIOTHERAPY CHART MECHANICAL VIBRATIONS	
Galvanism -----	Chemical effect
Faradism { -----	Mechanical effect
S. nusoidal { -----	
Static -----	
Wireless -----	
Diathermy -----	Thru heat
Infra-Red -----	Radiant heat
Red -----	Light
Orange -----	
Yellow -----	
Blue -----	
Indigo -----	
Violet -----	Chemical effect
Ultra Violet -----	
Radium -----	
X-Ray -----	

The Modalities are arranged according to wave length from above downward.
(Modified from Eberhart.)

Fig. 1

age, high amperage, producing the greatest heat possible and used to coagulate or cook tissue. Regulating the apparatus for these three forms of surgical diathermy is not difficult. The ammeter indicates the amperage and the spark gaps control the voltage. The length of the spark, its hotness and coldness, can be tested on any piece of metal in the circuit, such as the stirrups of the table. A foot switch facilitates the rapid opening and closing of the circuit. A spark of about $\frac{1}{8}$ of an inch is usually used. Practice may be gotten on a piece of beef to determine the extent of destruction for a given spark and time until one is experienced in the method. The desiccating form gives mild heat and destroys by dehydration. It is used for small growths and surface effects. Fulguration and coagulation produce more profound effects and are used for larger masses and depth destruction.

When high frequency currents are passed through electrodes composed of block tin or fine metal mesh of sufficient size to prevent the concentration of heat above the tolerance of tissue, it is referred to as "medical diathermy." When so applied, the current passes in the most direct path between electrodes, deep heat being produced within the interposed tissues. Maximum concentration of heat is midway between electrodes of equal size and nearest the smallest electrode when they are of different size. Thus, presumably, the greatest heat can be concentrated at any depth in the body desired. In medical diathermy, the spark gaps are kept small and high amperage is used.

The exact amount varies from 100 m. a. to 2,500 m. a. Not more than 65 to 75 milliamperes per square inch of the smaller electrode are used, and in actual practice more attention is paid to the patients' subjective sensations than to the ammeter. Where the smaller electrode is within an insensitive part, as in the use of the Corbus cervical thermophore, a thermometer is inserted within the electrode. The effects of medical diathermy are secondary to heat production, and are listed as:

- Vaso-dilatation and capillary hyperemia;
- Relief of venous congestion;
- Stimulation of cell metabolism;
- Absorption of exudates;
- Softening of sclerotic tissue;
- Sedative action on nerves and muscles;
- Relieving spasm and pain.

(See Fig. II.)

CLASSIFICATION OF HIGH FREQUENCY CURRENTS USED IN GYNECOLOGY	
SURGICAL	
Oudin-----	{ High voltage low amperage The so-called "cold" spark for desiccation.
Tesla-----	{ Medium voltage medium amperage The burning spark for fulguration.
D'Arsonval-----	{ Low voltage high amperage The powerful heat for coagulation.
MEDICAL	
D'Arsonval-----	{ The true diathermy current Vaso-Dilatation Capillary hyperemia Relief of venous congestion Stimulation of cell metabolism Softening of sclerotic tissue Absorption of exudates Sedative action on nerves and muscles.

Fig. II.

I shall not attempt to review the literature on diathermy, which is both great in quantity and contradictory in evidence. Articles devoted to its use in other fields of medicine are much more numerous than in gynecology, but an increasing number of gynecologists are recognizing this form of therapy as an important one in their field. Dr. Howard Kelly in his new book has a large and excellent section devoted to the subject.

I shall presume to outline my limited experience with diathermy in disorders of the female genital and genito-urinary tract, and to describe the technique used. No claim to originality in method of application is intended.

LEUCORRHEA: Recognition is made of the fact that in practically all cases of mucous discharge known as leucorrhea, the source is the over-secreting of the infected endocervical glands, and that in most instances leucorrhea means cervicitis. The cases divide themselves into five groups, according to the stage of cervicitis.

Group 1: *Slight leucorrhea due to simple hyperplasia and excess of secretion without gross cervicitis.*—This responds well to medical diathermy with the Corbus thermophore. Treatments are given once or twice weekly, lasting thirty-five to forty-five minutes, raising the temperature from 108 to 110° F. (Fig. III).



Fig. III.—Showing the method of application of the Corbus thermophore in the treatment of endocervicitis or in the use of medical diathermy for dysmenorrhea, utero-sacral pathology, etc.

Group 2: *Leucorrhea with gross infection of endocervical glands.*—The discharge is more opaque and more excessive. The cervical canal is found to be abnormally large and filled with soft granulations, as disclosed by the passage of a dilator or the use of a curette. I have failed to get good results with diathermy in this group of cases, the pathology apparently being too extensive. Perfect results are obtained by dilating the canal and curetting the same with a small, sharp curette (Fig. IV). When the gonococcus is the causative agent, I prefer to dilate the canal and to streak it with the nasal cautery. Corbus treats gonococcal cervicitis and gonococcal urethritis with his thermophore and gets good results. The theory is that the gonococci succumb readily to a temperature of 113 F., and are inactivated by a temperature of 104 F. It has been my experience to get frequent recurrences after this form of treatment. There is, however,

one form of pathology here which responds perfectly to medical diathermy with the Corbus cervical electrode. I refer to inflammation of the utero-sacral ligaments and parametritis. Whether this is secondary to cervicitis, or to purulent infection of the tubes, marked relief from backache and tenderness of the utero-sacral ligaments is obtained.

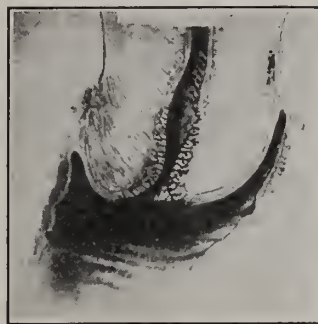


Fig. IV.—Showing the location and extent of the endocervical glands (Corbus and O'Connor). Gross infection treated by diathermy with Corbus thermophore or better by dilatation and curettage or cauterization of the canal.

Group 3: *Leucorrhea with cervicitis and erosion.*—The erosion is simply columnar epithelium from the cervical canal, which, under the stimulation of the infected endo-cervical glands, proliferates and invades the vaginal cervix, normally covered by stratified squamous epithelium. Erosions are thus always the mark of more advanced cervicitis and do not respond well to medical diathermy. The erosion and the cervicitis must be treated together, and the infected endo-cervical glands must be treated radically. If the discharge is only moderate and non-purulent, the canal is thoroughly curetted and antiseptic applications made during the next few days. Where the purulent nature or excessiveness of the discharge contra-indicates this, electro-coagulation is used to destroy the endo-cervical wall to the depth of several millimeters. With the inactive electrode on the abdomen, the pointed electrode is inserted to the internal os and withdrawn against the canal with the coagulation current on. Streaks are made anteriorly, posteriorly and laterally. (Fig. V). The same thing may be accomplished with the nasal cautery, but the discharge interferes with its action, more difficulty is experienced in introducing it to the internal os and the resultant scar is harder. After either method, stricture of the canal is exceedingly rare and is readily handled. Ende, of New York, has recently described an endo-cervical electrode

which contains both poles within itself, the advantages being diminished pain and better control of the depth of destruction. In many cases, he rotates the electrode completely within the cervical canal.

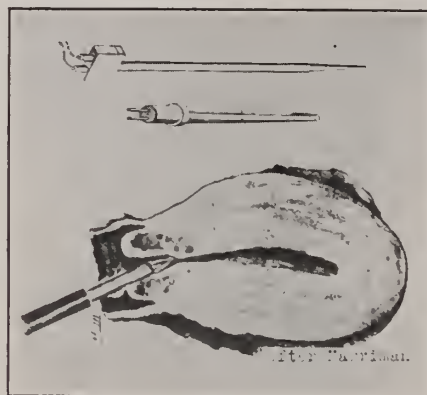


Fig. V.—Above: The new "Enoe" bipolar cervical electrode. Below: Electro-coagulation of the cervical canal.

The accompanying erosion is best treated by the actual cautery. Small central erosions may be coagulated, along with the endo-cervix, but, for the larger erosions, cautery streaks at one or more sittings is the method of choice. There is less tendency to bleeding and less mass destruction of tissue. Under the influence of the cautery streaks, the normal stratified squamous epithelium pushes back the columnar epithelium of the erosion and covers the vaginal cervix in several weeks. (Fig. V-A).

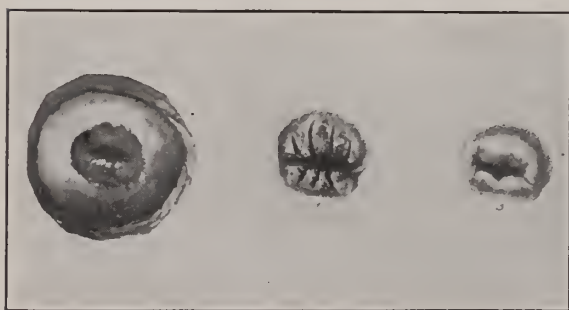


Fig. V-A.—The granular stage of an "Erosion." "Cautery Streak" method of treatment. End results (after Matthews).

Group 4: *Cystic degeneration of the cervix.*—This is the late stage of cervicitis with erosion, small, shot-like, sago colored cysts (Nabothian cysts). They shine through the thickened and smoothed out columnar epithelium. Two methods are here available,—puncture of the cysts by electro-coagulation, or by the cautery. (Fig. VI). Electro-coagulation has the advan-

tage of destroying the cystic glands, as well as such adjacent tissue as may be desirable to shrink up the hypertrophied cervix, without



Fig. VI.—The follicular stage of an "Erosion".

undue danger from hemorrhage. I have felt that this method has given better results than the use of the cautery.

Group 5: *The lacerated, infected, dumb-bell cervix.*—Here the old lacerated lips have become completely infected, swollen, everted and rounded. I know of no method, short of surgical removal, which gives such perfect results as surgical diathermy in this type of case. The needle electrode is plunged well into the hypertrophied tissue in a circumferential zone about the canal. The coagulated areas slough out, and the resulting cicatricial contraction produces a cervix, reduced in size and glandular activity. The method requires the courage of your conviction, but the final results, in selected cases, are excellent. (Fig. VII).

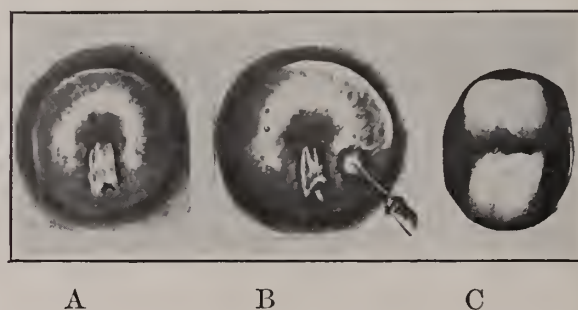


Fig. VII.—A. The lacerated "Dumb-Bell" cervix. Responds well to shrinkage with electro-coagulation.

B. Electro-coagulation applied to the "Dumb-Bell" cervix.

C. The lacerated cervix with gaping lips which is best treated by resection.

Group 6: In contrast to the last type, I would mention the *bilaterally lacerated cervix with large, bluish, edematous lips which gape unduly*. The circulation seems to be funda-

mentally impaired in these cases, and the only cure is surgical resection.

Attempts have been made to cure the peculiar vaginal discharge attributed to the trichoma vaginalis with diathermy, but so far no reports of success are available. Hanging drop preparations should be made in all cases of leucorrhea to exclude this intractable condition.

DYSMENORRHEA: Coming to the cases of painful menstruation, we arrive at the fertile field for medical diathermy. Various writers report from 50 to 75 per cent cures. My own experience with the method has been a happy one. Treatments are given three to four times between each menstrual period, medical diathermy from thirty-five to forty-five minutes each treatment being used. In virgins, the application is abdomino-dorsal, using 800 to 1,200 m. a. through the entire pelvis, while in married women, the Corbus thermophore in the cervix and block electrode on the abdomen are preferable. So far, I have been unable to differentiate between the results in the various forms of dysmenorrhea—virginal, congestive, obstructive, tubal or ovarian,—but have obtained particularly good results in the congestive and obstructive type. And special mention should be made of those cases which, following a laparotomy for chronic pelvic inflammatory disease, begin to suffer severe pain at each menstrual period in the side on which whole or part of an ovary has been left. Medical diathermy, with a plate over the painful side and the Corbus thermophore in the cervix, often cures these cases.

Before leaving dysmenorrhea, it must be added that, in many cases, other forms of therapy have been used in conjunction with the diathermy treatments. Thyroid substance has been given to cases with lowered basal metabolic rate, anterior pituitary to those showing evidence of pituitary disturbance, and a low caloric diet to the obese. None of my cases are of sufficient duration to warrant the conclusion that they are permanently cured. (Fig. VIII).

OLIGOMENORRHEA: This is another type of menstrual disturbance in which I have obtained, at least temporarily, good results with diathermy. I refer to those cases of insufficient flow,—a little spotting for one or two days, with attendant mental depression. Often one ovary, or an ovary and part of the other one has been removed at operation. From the endocrine point of view, there is a hypoovarianism, and, in many cases, an associated hypo-thyroidism and hypo-pituitarism. It has been my experience that thyroid, pituitary and ovarian substance alone have not increased the flow, while, in conjunction with medical diathermy, definitely gratifying results have been obtained. The treatments, however, have had to be continued indefinitely, several times between each period, and I am wondering just how long this form of therapy can be continued safely and effectively. The technique has been the use of the plate electrode over alternate ovaries and the Corbus electrode in the cervix.

I have had no experience in the use of diathermy to re-establish menses in premature menopause, or in an occasional amenorrhea of the younger patients, but some writers have claimed good results. I have seen no reports of its use in the treatment of irregular menses, and have had only limited personal experience in the same.

METRRORRHAGIA: Diathermy is contra-indicated in cases of excessive menstrual flow, except where this is due to extensive cervical infection, in which case surgical diathermy may be used to treat the cervicitis. In menopausal flooding, it is definitely contra-indicated.

LOSS OF LIBIDO: No definite results have been obtained by me in treating loss of libido by diathermy, but my series is small. A few cases have reported increased desire between the treatments.

SALPINGITIS: Medical diathermy in conjunction with protein therapy and hot douches has been of definite help in relieving the pain, and obtaining a remission in subacutely inflamed tubes, tubo-ovarian masses, and purulent salpingitis draining into and through the uterus. Its use to alleviate the accentuated pain in the diseased appendages at menstrual time has been previously mentioned. The plate electrode is used over the affected appendage and the Chapman vaginal electrode per vaginam. (Fig. VIII-A). When one tube and ovary have been removed, it is especially gratifying

DIATHERMY IN MENSTRUAL DISTURBANCES

<i>Benefited</i>	<i>Contraindicated</i>
Dysmenorrhea	Menorrhagia
Oligomenorrhea	Metrorrhagia
Amenorrhea	
Irregular Menses	

Fig. VIII.

to find it possible to preserve the remaining adnexa by this form of therapy. And when the gonococcus is the causative micro-organism, after diathermy treatments with the cer-



Fig. VIII-A.—Use of the Chapman Vaginal Electrode in the treatment of subacute and chronic adnexal disease.

vix thermophore, dilatation and cauterization of the canal as an aid to cleaning up the tubal infection are much easier. Increase in pain, or rise in temperature, calls for a cessation of electrical treatment. I have not used diathermy pre-operatively to loosen indurated masses, but many writers state that the method greatly facilitates dissection at time of operation.

URETERAL STRICTURE: I have occasionally employed diathermy treatment after dilatation of the ureter for stricture, and have felt that the cystoscopic treatment has been less often followed by spasmodic contraction of the ureter.

There remain to be discussed those cases of gland infection, small tumor, and ulcer formation, which, in selected cases, respond well to surgical diathermy.

BARTHOLINITIS: In the chronically infected but not grossly enlarged gland, electro-desiccation can be used to destroy the sac. A few drops of 1 per cent novocain are run into the gland through a small hypodermic needle. The syringe is then detached, and the needle left in situ to be used as the active electrode. A weak current is turned on until the surrounding tissue is white and dry. When the gland is swollen and contains free pus, it is incised under local anesthesia, the pus evacuated, and the interior destroyed thoroughly with desiccation. When the swollen gland is chronic, surgical excision is by far the method of choice.

SKENE'S GLAND INFECTION: The urethra is anesthetized with a cotton applicator dipped in 6 per cent novocain. The gland is injected with a drop of 1 per cent novocain, and desiccated with the hypodermic needle as the elec-

trode, as described for Bartholinitis. (Fig. IX).

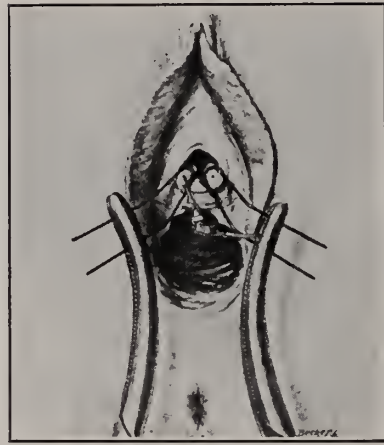


Fig. IX.—Orifices of Skene's glands exposed. Hypodermic needle used as electrode to desiccate gland. (Modified from Kelly.)

URETHRAL CARUNCLE AND PROLAPSE OF URETHRAL MEATUS: Surgical diathermy is the method of choice for caruncles. Under local anesthesia, the growth is thoroughly destroyed by a desiccating current. In prolapse, as the wound heals and shrinks, the meatus retracts and presents a normal appearance.

VENEREAL WARTS, CONDYLOMATA AND POLYPS: These are all destroyed effectively by the desiccating current. Where the base of the tumor can be clamped off, the procedure is simplified by applying the current through the clamp.

PRURITUS ANI: Good results are claimed by superficial desiccation of localized skin areas. I have had no experience with the method.

BLADDER PAPILLOMATA AND ULCERS. Surgical diathermy affords brilliant results in these cases. With the active electrode passed through a hard rubber open-air Kelly cystoscope, tumors can be thoroughly destroyed by coagulation, and the base of ulcers desiccated without injury to the bladder wall. (Fig. X).

I have omitted discussion of the more recently perfected radio-therm, or cutting knife, where a current of millions of frequency is employed. The larger clinics are employing the method in resection of the bladder and in the removal of malignant growths.

CONTRA-INDICATIONS

As to the contra-indications to diathermy, there are not many. Like other forms of therapy, diathermy cannot be used without some thought and study. In some cases, it

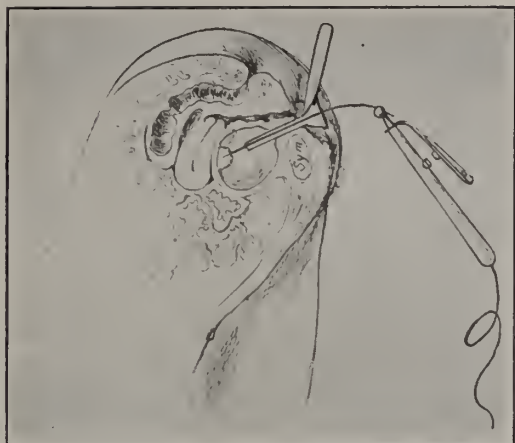


Fig. X.—Treatment of bladder papilloma through hard rubber open-air Kelly cystoscope, using monopolar or bipolar current. With latter, inactive electrode is strapped around pelvis.

may do great harm. It is thus definitely contra-indicated in cases of metrorrhagia and menorrhagia: in pyosalpinx and pelvic abscess. It must be used with great caution in patients of advanced age, or in patients suffering from serious cardiac disease, or severe nephritis.

SUMMARY

SUMMARY OF THE USES OF DIATHERMY IN GYNECOLOGY

MEDICAL DIATHERMY

Leucorrhea of the first degree.
Utero Sacral ligament inflammation.
Dysmenorrhea.
Oligomenorrhea.
Salpingitis and tubo-ovarian disease.
As a preliminary measure to the dilatation and cauterization of the cervical canal in case of gonococcal infection

SURGICAL DIATHERMY

Endocervicitis, small erosions.
Cystic degeneration of the cervix.
The lacerated, infected dumb-bell cervix.
Bartholinitis, Skene's gland infection.
Urethral caruncle, venereal warts, condylomata, polyps.
Malignant new growths.

Fig. X-A.

Whereas diathermy is not a cure-all, in selected cases, in combination with other therapy, it is certainly of great value. Reckless statements emanating from the unbeliever who condemns diathermy without sufficient investigation are a detriment to clinical progress. There are some disorders in gynecology which respond better to diathermy than to any other therapeutic agent. *Medical diathermy* is of

undoubted value in leucorrhea of the first degree, utero-sacro ligament inflammation, dysmenorrhea, oligomenorrhea, salpingitis and tubo-ovarian disease, and as a preliminary measure to the dilatation and cauterization of the cervical canal in cases of gonococcal infection. *Surgical diathermy* is particularly applicable to advanced endo-cervicitis, cystic degeneration of the cervix, to the lacerated, infected dumb-bell cervix, Bartholinitis, Skene's gland infection, urethral caruncle, venereal warts, condylomata, polyps, bladder papillomata, bladder ulcers and malignant new growths. To use diathermy as a cure-all, or to employ it where it has been proven to be of no distinct value, is to cast disrepute on a method which has positive value in selected cases. On the other hand, not to use diathermy at all is to neglect a useful form of physiotherapy, which we can rightfully call our own.

Medical Arts Building.

DISCUSSION.

DR. C. J. ANDREWS, Norfolk: Dr. Lowenberg asked me to discuss this, but as a good deal of this work has been done in connection with my own work I shall not go into any of the material that he has presented. I wish to call attention to the fact that it is an extremely important thing, it is practical, and does give excellent results. I had hoped to look up my own records and give some report on those, but time was not available and I can give only very general ideas.

I became interested in this work after a paper read by Dr. Dickinson, on cautery treatment of cervicitis in 1920. Before that time we used swabs, etc., treating the woman for a long time until she got tired of coming to us and went to someone else. This is so much easier. Some of my friends have expressed the belief that all cases of cervicitis could be treated with diathermy. We have not felt that way. I would say in possibly some three hundred cases, we have operated on not more than ten or twelve, possibly fewer. Occasionally we do it in connection with some other work. The surgical method is much quicker; if the patient is away from home and has to return home, then we use the surgical procedure.

Dr. Lowenberg has called attention to *Trichomonas* infection. We have known some of these cases to have all manner of treatment, occasionally surgery. So I warn you not to get too enthusiastic about treating all manner of cases with this method. Fortunately, it is very easy to identify cases of *Trichomonas* infection if you just use the hanging drop method.

DR. R. L. RAIFORD, Franklin: There is one class of cases which has not been touched on that I wish to speak of, and that is the young girl just entering menstrual life in whom we have a good deal of trouble in clearing up the anemia—cases we are accustomed to call chlorosis, or green sickness. I have found these girls to invariably have an infected cervix, and a single application of surgical diathermy will usually clear them up. It is not necessary to use an anesthetic for the treatment, but one is

often required to avoid the pain of introducing the speculum.

Turning to the other end of the menstrual life, I think the only reason why more ills are attributed to the teething of babies than to the menopause is that there are more babies in the world than there are women. We still have many physicians who, when women come to them for various ills, tell them they are just passing through the "change of life" and dismiss them. It has been my experience that whenever a woman presents herself with symptoms referable to what we call the "change of life," there is some pathology back of it. A woman whose uterus is normal usually passes through her menopause just as a baby who is normal passes through his teething period, without disturbance. It is astonishing how many symptoms you can clear up in this period by the use of diathermy.

I enjoyed very much Dr. Lowenberg's paper, and I believe there is more to this subject than most of us have realized. Since I have been doing this work I have come to believe more and more each year that there is a great deal of surgery done in women's pelvis that could be avoided if the cervix were cleared up first as a routine procedure. Of course, some of them will come to surgery, but I believe a great many pelvic operations can be avoided if we will look on the infected cervix as the primary focus from which pelvic pathology develops and institute proper treatment in these cases early.

DR. JOSEPH BEAR, Richmond: In chronic endocervicitis, I employ the method of dilatation and light curettage, followed by the actual cautery. The point I wish to emphasize is that very frequently when the actual cautery is applied between the external and internal os, we sometimes get the formation of secondary cicatricial tissue. Recently, there have been a certain number of cases reported in which subsequently menstruation did not reappear. In order to avoid this unfortunate occurrence, I employ the following technic: Before the operation is complete, I sponge the external os, and then take the end of a Hegar dilator Nos. 13 and 14 (after its immersion in a two per cent mercurochrome solution) and gently insert the same into the cervical canal; it is then removed and the larger end likewise inserted. By so doing, we positively know that the cervical canal is open and will be free from scar tissue.

DR. LOWENBERG, closing the discussion: I wish to thank Dr. Andrews, Dr. Raiford, and Dr. Bear for their discussion. I am glad that Dr. Raiford brought out the fact that, as has often been said, in the female, after puberty, the cervix seems to be the female tonsil and thus becomes the source of infection. Infection in the cervix can be eradicated more readily by the use of diathermy than we realize. I have often told a patient that she ought to be operated on and have treated the cervix with diathermy while the patient was getting ready to go to the hospital and have been surprised to find that the cervix has healed before the time has arrived. Since most female operations are very prolonged, it is a great help to have the cervix healed and out of the way before the operation is performed.

I think the use of the dilator, as Dr. Bear brought out, is a very good point in making sure that the cervical canal is not obliterated.

EXPERIENCES WITH A REMEDY FOR CONTROLLING HEMORRHAGE, INCLUDING THOSE FOLLOWING TONSILLECTOMIES.*

By J. H. HIDDEN, M. D., Pungoteague, Va.

In a conversation with a surgeon of national reputation, the remark was made that he wished his tonsils were out. To this I replied: "Why don't you have them removed?" He replied: "I am afraid of hemorrhage." To this I remarked: "You are in a great hospital with expert surgeons around you, why should you be afraid?" Again, he replied: "I have seen enough. I have had to ligate the external carotid artery on two occasions for these surgeons, following a tonsillectomy in each case." Another surgeon of reputation was present and added: "Sometime ago a boy of about twelve years of age had a tonsillectomy done at my hospital and every known method for controlling hemorrhage was tried without success."

Such experiences among our best surgeons, along with the obvious fact that no method for controlling hemorrhage is the best for all cases alike, suggest the thought that any method that has been successfully used in any considerable number of obstinate cases ought to be generally known and its technique well understood, and if not generally adopted for the majority of cases, at least, held in reserve for special cases in emergency.

The desire to find such a remedy was greatly intensified some years ago, when I came so near losing my youngest son in a Baltimore hospital, following a tonsil operation, performed by an experienced surgeon. When the child was almost exsanguinated and in a state of collapse, cold, pallid, unconscious and pulseless, to struggle with what appeared certain death, with a screaming wife and mother by my side, was an experience that is not easily forgotten. Following this experience I have for fifteen years been working to this end, namely, to find and test some remedy that could be easily applied to any bleeding surface, and secure reasonable safety against the great majority of hemorrhages. Many remedies have been tried and tested as local applications, most of which, showing only astringent properties, have been disappointing, and some, practically worthless.

*Read before the Seaboard Medical Association of Virginia and North Carolina, at Newport News, Va., December 3-5, 1929.

While making many of these tests I thought of trying pulverized permanganate of potassium mixed with some other powder to modify its caustic properties. The selection of the powder for this mixture was suggested by the properties of zinc oxide, its sticking and oxidizing properties. Moreover, its soothing properties make it well adapted to neutralize the continued caustic action of the other powder. After mixing these powders in various proportions to find the most suitable strength for the average case of hemorrhage, I found they serve to seal the small arterioles and capillaries instead of acting as a mere astringent of only temporary action. In this mixture we have then, not only astringent and antiseptic properties, but sealing properties also, and this latter feature is the most important one for us to consider; for by this action upon the bleeding vessels we get more permanent results than when mere astringents, such as adrenalin chloride, tannic acid, alum, sulphate of zinc, acetate of lead, silver solutions, iron preparations, including Monsel's solution, etc., are used.

Now in presenting this simple method for controlling hemorrhage, I trust you will not misunderstand me. It is not recommended for every kind of case alike, neither is it recommended as a substitute for a nice surgical transfixion under ideal conditions when such a course is most desirable for securing spurting arteries or profusely bleeding veins. Under such conditions I prefer a skilfully placed transfixion to any other method when this can be easily done, but in many cases of persistent hemorrhage, spurting arteries cannot be found, and oftentimes the exact location from which the bleeding comes seems hard to determine. Indeed, in some cases of hemorrhage there is a persistent oozing from various sources and often it is found in difficult places in which a surgical transfixion or an arterial ligation is hardly applicable. In such cases, especially, I have found my simple remedy very efficient, and it has often relieved me of much anxiety and embarrassment when used. This is especially true in some tonsillar cases.

THE REMEDY

Returning again to the nature and preparation of the remedy, it is, as before stated, a mixture of pulverized permanganate of potassium and oxide of zinc. In preparing this

mixture I usually make two strengths, one a 25 per cent of the permanganate and 75 per cent of the zinc, the other 40 per cent of the permanganate and 60 per cent of the zinc. Some cases will do well with the weaker mixture while others may require the stronger mixture. I have occasionally used equal parts of the component powders in very obstinate cases of hemorrhage with excellent results. The mixture should be used fresh and mixed well, but loosely. If allowed to stand very long, it loses much of its efficiency, and may become practically no more than a permanganate of zinc, or at least, lose much of its sealing properties.

THE TECHNIQUE

In applying this mixture for hemorrhage it is best first to apply a sterile gauze sponge or a firm tampon against the bleeding surface, and use enough gentle pressure to check the bleeding long enough to apply the remedy directly to the bleeding tissues so that the powder may come in direct contact with the arterioles and capillaries without being mixed with blood, or having blood between the medicine and the capillaries. This feature in the technique is often very important to observe.

Again, when the medicine is applied, you should use, not only a little gentle pressure, but also hold the remedy there for two or three minutes, or even longer, if necessary, so as to let its action on the tissues and capillaries take well before removing this gauze sponge. If you fail to do this, the bleeding vessels, by their internal local pressure, will wash away the medicine before it can get fastened to the lumen of the capillaries and minute arterioles and seal them securely. A little care in the technique will often result in a brilliant success that would otherwise be a failure. In tonsil cases in which the bleeding is persistent, I use the usual pressure with sterile gauze until the bleeding checks, then, with an applicator ready with a good piece of cotton wound around it the proper size to fit the bleeding surface, I quickly make the medicinal application. This is done by dipping the applicator in water, then in the mixture, and then to the tonsil fossa from whence the bleeding comes. This application is made rapidly as you release the other tampon or gauze from the fossa. Here it is held, as before suggested, for three or four minutes. The fossa

is then inspected. If this is not dry, the process is repeated until it is dry. If the technique is properly carried out, the fossa, in my experience, soon becomes almost universally, dry, and I may add, with a dry fossa you seldom have further trouble, differing in this respect from checking the bleeding with the commonly used pressure and astringents.

Further, there are many other conditions besides those following tonsil operations in which I have found this method of controlling hemorrhage very convenient and successful, and so will give you a sort of inventory of the kind of cases in which I have used it. In none of these have I ever had reason to regret its adoption. Theoretically, many objections may be advanced against its general use, but practically, in my hands, I have so far found these purely imaginary, or at least, of no consequence when we have to face an alarming hemorrhage that is not easily controlled by the usual methods. The greatest objection to its use, in my experience, is that it is sometimes a little painful for a short time; but even this feature can be practically eliminated by first applying to the surface to be treated a little cotton, soaked in a solution of butyn or codrenin a minute before applying the hemostatic mixture.

THE INVENTORY OF CASES

Tonsil cases following operations, 58.

Hemorrhoidal cases following operations, 16.

Following operations for urethral papillomata, 2.

Following removal of a large papilloma of the temporal region ($1\frac{1}{2}$ inches in diameter), 1.

In nasal hemorrhages of a severe type, 8.

Following the excision of a carbuncle of the upper lip, 1.

Following the excision of large, painful nodules of scar-tissue, resulting from an old healed carbuncle of the neck, 2.

In uterine cases, metrorrhagias, 4.

Following the removal of uterine polypi, 5.

Persistent hemorrhage from a haematoma of the jaw near a diseased tooth that had resisted many other efforts to control it, 1.

Following an obstinate hemorrhage of the forefinger that had been cut obliquely off in a sawmill accident, 1.

Following obstinate hemorrhage from a deep cut of the thigh, referred to me, after pack-

ings and pressure had failed to control it, 1.

In a case of alarming hemorrhage from the throat, due to a cancer eating through some of the small vessels, and the patient threatened with exsanguination and collapse, 1.

A similar case of threatened exsanguination from a cancer of the face, with approaching collapse, 1.

In minor cases, following the removal of moles, warts, sebaceous cysts and small papillomata, 69.

In addition to these, a considerable number in which no accurate records were kept, but estimated to be about a hundred or more cases of annoying bleeding, some of which were quite alarming to the patients and their families after teeth extraction by dentists and others.

With these experiences I am glad for my fellow physicians to have the benefit of my observations in this line of work.

SKIN DISEASES ABOUT THE EYES.

By RUSSELL FIELDS, M. D., Washington, D. C.

Skin diseases about the eyes are a subject of especial consideration. An accurate diagnosis is essential because of the delicacy of the adjoining structures. The treatment is likewise difficult. It is the purpose of this paper to relate some of the common skin lesions in this area together with the appropriate treatment.

Eczema of the seborrheic type is probably the most common lesion encountered. One or both lids are involved. The onset may be one of a subjective sense of stiffness on opening the eye to that of a slight puffiness. It is frequently rather acute. As a rule this condition passes quickly into a subacute stage. Itching and burning may or may not be a prominent symptom. In this stage a fine greasy scale on a pale erythematous base is seen. Dandruff is frequently present on the scalp and its etiology probably is related to that of seborrhea. Nervous tension no doubt plays a part in the cause as well as variations of climate and temperature. These various conditions combined with a predisposition on the part of certain individuals seem to be factors of importance. Another form of seborrhoea near the eye is that commonly known as blepharitis.

An ordinary acute eczema may find its starting point about the eye. Here we find the onset more acute although the symptoms are much the same. There is much more of a

tendency to spread. The erythema is a brighter red. Papules and vesicles are present and the scaling is less. At times an acute eczema may simulate an erysipelas but in the latter the skin is much more tender and firmer to the touch. Here again the etiology is not well defined, but it is more probably due to a pollen or protein sensitizations. The application of too strong medicaments, chronic conjunctivitis, ectropion and affections of the lachrymal sac are also factors entering into its causation. Eczema of the lids in children is common and frequently accompanied by a phlyctenular conjunctivitis. The treatment of eczemas about the eye of the above type is often quite difficult, while many cases clear up quickly with little or no treatment. Treatment of an eczema which accompanies a conjunctivitis will oftentimes enable the ophthalmologist to cure the latter condition more quickly and efficiently.

In the acute cases with edema lotions are the method of choice, cool applications of aluminum acetate having been found serviceable. Boric acid compresses may also be used. The boric acid should be well dissolved before using so that the crystals do not remain as such in the crevices and carry on an irritation. When the edema is due to an eczema, it will usually subside in twenty-four to forty-eight hours. If it persists longer than this, it is wise to call in an ophthalmologist to rule out any eye condition. Magnesium sulphate applications used to reduce an edema associated with eczema are inadvisable. If the edema is slight and subsiding, the frequent and careful application of a one per cent aqueous solution of resorcin will hasten the absorption and drying process. Electrotherapy of any kind is best avoided during the first twenty-four to forty-eight hours. After this time there is frequently a marked tendency for the condition to become chronic and in such cases mild doses of X-ray, one-eighth to one-quarter units, are of a great help. This will oftentimes shorten the duration of the disease. In the subacute and chronic stages boric acid ointment or combinations of one dram of zinc oxide to the ounce of ung. aquae rosae are useful. Pledgets of cotton upon which the ointment to be used has been thickly smeared are placed on each lid. These are retained best by a bandage.

Blepharitis squamosa (granulated eyelids)

may be the forerunner of a severe eczema about the eye. The cause of the blepharitis must first be eliminated. According to Fuchs, the border of the lids is merely a modified form of epithelium and hence the blepharitis is quite like a dermatological lesion. The application of one-half to one per cent yellow oxide of mercury or two per cent boric acid ointment with lanolin and vaseline equal parts is advised. Frequently this will not cure the condition, and resort must be made to topical application of one per cent silver nitrate and other remedies, always to be applied by the physician. All crusts should be removed before applying any ointments. Warm applications of olive oil are useful for this purpose. Diseases of the cilia which frequently require epilation are best handled by the ophthalmologist. Occasionally, when the cilia are very short, electrolysis is used. A primary or secondary impetiginous conjunctivitis often causes an eczema of the surrounding skin. The use of five or ten per cent solution of argyrol freshly prepared and boric acid irrigations will aid this condition along with the appropriate treatment for the accompanying eczema and blepharitis.

An external angular conjunctivitis is a condition which causes both the dermatologist and the oculist some concern. The condition will frequently clear up miraculously in a day or two only to reappear immediately. The mild cauterization with silver nitrate together with small doses of X-ray, one-eighth to one-twelfth units, will be found useful. As the blepharitis and conjunctivitis may be the cause of the eczema, so too their etiology may lie in some defect in vision or eye-strain, and this should carefully be sought for.

Erysipelas is a subject familiar to the physician. Because of its frequency the diagnosis is not difficult. The subject being an extensive one and so much having been written on the varied means of therapy, it will not be discussed here.

Probably the most painful skin lesion about the eye is that of herpes zoster (facialis). The presence of grouped vesicles unilaterally situated on the eyelid, supra- or infraorbital region, associated with a slight tingling and burning sensation to that of marked pain and edema, are sufficient to make the diagnosis. When the lesions appear on the nose or the infraorbital region, there is more likely to be

corneal involvement. When eye complications occur, they are usually more of an iritis or iritis-cyclitis and keratitis. As a rule, the condition runs its course from a few days to several weeks, and is not serious. Sometimes a necrosis takes place, leaving a scar, but this is rare. The diagnosis having been established, every precaution should be taken to prevent the lesion becoming worse, rather than that much attempt should be made to cure the condition. This is best accomplished by absolute rest, and freedom from worry as far as possible. Salicylates, autohemotherapy, injections of foreign protein and soothing salves may be tried, but, other than the analgesic properties of the latter, they will not affect the course of the disease. Diathermy is probably the best means of relief.

Epitheliomas upon and surrounding the eyelids are usually easily recognized, and, due to the difficulty of surgical intervention in this area, the judicious use of X-rays and radium and at times some desiccation will cure the average case. It is to be remembered that the eye is less susceptible to moderate doses of X-ray and radium.

Xantholasma (xanthoma palpebrarum) is another common disease affecting the upper eyelid. The lesions are slightly raised, yellowish patches. They are soft and sharply demarcated. They are one to several in number. The subjective symptoms are nil. Treatment is best carried out by the use of trichloroacetic acid, carbon dioxide snow, the electric needle, or desiccation.

Herpes febrilis, characterized by small, limpid, grouped vesicles on the lids, often accompanies an acute febrile disturbance.

A diagnostic point frequently overlooked is pigmentation about the eyelids. This is often noticed in long standing cases of leucorrhoea, dyspepsia, exophthalmic goitre, chlorosis, amenorrhoea and phthisis. Of course, here the treatment of the condition lies in removing the cause.

Other less frequent lesions of the skin about the eye are furunculosis, anthrax pustules, chancre, chancroid, lepra, sporotrichosis, blastomycosis, lupus vulgaris and lid abscess.

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*Columbia Medical Building,
1835 Eye Street, Northwest.*

THE DEVELOPMENT OF PERNICIOUS ANEMIA IN A PATIENT UNDER OBSERVATION. A CASE REPORT.*

By DEWEY DAVIS, M. D.,
and
DOUGLAS VANDERHOOF, M. D.,
Richmond, Va.

Mrs. C., age 53, was admitted to the Johnston-Willis Hospital June 30, 1924. She complained of trouble with her eyes. She had typhoid fever at the age of 19 and peritonitis when 22. She had suffered with indigestion as long as she could remember, characterized by slight nausea and constipation alternating with diarrhea. In 1918, while convalescing from an operation for removal of the uterus and appendix, she developed corneal ulcers on both sides which healed promptly. During the summer of 1923, an ulcer developed on the left cornea which only healed after all her teeth were extracted. For two weeks before she entered the hospital she had suffered severely with attacks of pain in the left eye and both became inflamed. Her stomach trouble was no worse than usual and she had never had any soreness of her tongue. Physical examination disclosed considerable ulceration of both corneas and pus retention in the tonsils. She was moderately undernourished.

Laboratory examinations showed hemoglobin 70 per cent, with a normal differential count and normal morphology of the red cells. The urine was normal and the blood Wassermann reaction negative. Two gastric analyses by the fractional method disclosed achlorhydria.

Her tonsils were removed and local treatment was prescribed for the eye condition by an ophthalmic colleague. In addition she was given four teaspoonsful of dilute hydrochloric acid a day, one before breakfast and the others with meals.

On August 8, 1924, she reported symptom free and she had scarcely missed a dose of hydrochloric acid. The hemoglobin was 69 per cent, red blood count 3,110,000, color index 1+, gastric analysis still showed free hydrochloric acid absent.

Occasional reports from her indicated good health until March, 1929, when she returned because of slight fever and attacks of abdominal pain, suggesting cholecystitis. She had for a short time noticed some sore tongue and a burning sensation in the epigastrium.

*Presented before a meeting of the Richmond Academy of Medicine, at Richmond, Va., November 12, 1929.

Her weight was 109 pounds. Physical examination was negative except for moderate corneal scarring and slight atrophic glossitis. The blood count was hemoglobin 62 per cent, red blood cells 2,380,000, mean diameter of red cells 8.53 microns (normal 7.40 microns), and the form of the red cell curve was typical of pernicious anemia. Cholecystography disclosed a gall-bladder with normal function. She expressed doubt as to the strength of the hydrochloric acid which she was accustomed to taking in teaspoonful dosage with meals, but analysis of a specimen showed a concentration of approximately 10 per cent.

She was immediately ordered three ounces of a potent liquid liver extract a day. Eight days later the blood count was hemoglobin 52 per cent, red blood count 2,160,000, reticulocytes 14.4 per cent. Three weeks later her hemoglobin was 70 per cent, and red blood count 3,890,000. Her temperature disappeared, there was no abdominal discomfort and she felt well. The daily allowance of liver extract was reduced to two ounces and six weeks later her blood count was normal. The liver extract was discontinued but she continued taking dilute hydrochloric acid as her indigestion returned if it was omitted.

Three months later she returned because of a recurrence of fever and epigastric pain. The blood count at this visit was hemoglobin 67 per cent, and red blood count 2,500,000. Adequate liver extract therapy restored this to normal in one month. She is now taking one ounce of liver extract and three teaspoonsful of dilute hydrochloric acid a day. At no time has she shown any evidence of neurological changes.

COMMENT.

The interesting features in this case are the development of pernicious anemia while she was under observation and while she was taking what we considered adequate doses of hydrochloric acid, something which has not occurred before in our experience; the fever and abdominal pain during the period of rapid blood count decline, and the prompt and repeated response to liver extract.

We have been able to collect from the literature thirty-two cases in which achlorhydria was demonstrated preceding the development of pernicious anemia from three months to twenty-five years, and, including the above

case, we have seen ten such instances, the longest intervening period being eight years. Of these ten, however, only this one reported developed the anemia while taking what we consider sufficient hydrochloric acid dosage.

This case again serves to remind us of the wonderful boon to mankind furnished by Minot and his associates in their discovery of the effectiveness of liver therapy in the control of pernicious anemia.

608 *Professional Building.*

NON-DIABETIC HYPERGLYCEMIA AND GLYCOSURIA.*

By CHARLES M. CARAVATI, M. D., Richmond, Va.

The repeated presence of sugar in the urine, together with a definitely elevated blood sugar level, has heretofore been considered sufficient evidence to establish a diagnosis of diabetes mellitus. More recently, however, it has been conclusively demonstrated, that following trauma, or during the course of some infection or toxemia, glycosuria and a high-fasting blood sugar estimation are often present, only to disappear after the primary focus has subsided. This temporary diabetic state may be fulminating and of short duration, or may be of longer standing and of a mild degree. It at times cannot be differentiated from true diabetes mellitus, until the disappearance of sugar after subsidence of all symptoms, due to the toxemia or infection.

Detailed report of all conditions causing this state, will not be possible in this brief article, but several of the more frequent and interesting causes of increased glycemia, with resulting glycosuria, will be mentioned.

"Renal Diabetes" is a condition probably resulting from an abnormal permeability of the kidneys to glucose. It is not a disease entity and the causation is undetermined. There is a constant glycosuria, which is little affected by the carbohydrate intake and always a normal blood sugar level. It differs from true diabetes mellitus in this fact, and the familiar symptoms of thirst, weakness, loss of weight, polyuria, pruritus, etc., are absent in renal glycosuria. It requires no treatment.

Excessive ingestion of sugar may result in a temporary hyperglycemia and a consequent overflow of glucose into the genito-urinary tract. This is probably due to the failure of the liver to convert the glucose into glycogen

*Read before the Richmond Academy of Medicine, December 12, 1929.

in a given time and is termed "alimentary glycosuria."

Overactivity of the posterior lobe of the pituitary gland often results in a diminished tolerance for carbohydrates. This, like the picture of Claude Bernard, may be due to the too rapid change from glycogen to glucose, by the liver, with an oversupply of glucose thrown into the blood stream. Claude Bernard, experimentally punctured the floor of the fourth ventricle and demonstrated that there was a resulting glycosuria which persisted several hours.

Elliott, in the *Medical Clinics of North America*, reported a case of marked hyperglycemia and glycosuria following a cerebral hemorrhage. In his case the intense and increasing hyperglycemia was little influenced by massive dosage of insulin and there was no ketosis.

Meninger has reported a transitory glycosuria, after all forms of cerebral trauma. Higgins and Ogden found glycosuria in 9% of all head injuries but less than 1% showed a lasting glycosuria.

It seems definite that hyperglycemia and glycosuria, associated with cerebral trauma and hemorrhage, are not analogous to pancreatic diabetes. There may be a central origin of this apparent diabetic complex.

McNish, in 1889, reported a peculiar case in which glycosuria complicated a severe burn. It is noteworthy that in this case glycosuria increased with marked rapidity, persisted during the acute septic state of the burn, decreased suddenly and disappeared, never to return. There was no record of blood sugar determinations.

Marsh, in 1926, analyzed glycosuria as found in thyro-toxicosis and concluded that two distinct types were found—one systemic and the other diabetic.

As is well known, a lowered glucose tolerance is common in hyperthyroidism, and this is not due to the inability of the individual to burn sugar, for they utilize more carbohydrates. The action of the excess thyroid secretion is to discharge the liver glycogen and to inhibit its storage. The blood sugar curve in the glucose tolerance test helps clinically to differentiate the true diabetic from the systemic thyroid diabetic. In the former, the blood sugar curve quickly rises and maintains its maximum for three or four hours, while

in the latter, the thyroid, there is a rapid rise and a rapid fall of the blood sugar level, reaching normal at end of one hour.

Two cases of syphilis of the pancreas are reported in the literature associated with hyperglycemia and glycosuria with no subjective findings characteristic of pancreatic diabetes. Strenuous anti-luetic treatment in both has resulted in a cure of the syphilis and a disappearance of the glycosuria. Followed over a long period, there has been no return of the diabetic complex in either patient.

The literature studied revealed only occasional reference concerning the presence of definite hyperglycemia and glycosuria in certain acute toxic conditions in non-diabetic individuals, and it is with this in mind that the following case reports are submitted.

CASE REPORTS.

Mrs. T. C., age 30. White, female: Was seen at her home on December 23, 1928, acutely ill. She had been nauseated for twelve days and vomiting constantly for past three days. The vomitus was brown and she could retain nothing. Her last menstrual period was October, 1928. She considered herself pregnant. She had one child, four years old. Had had two miscarriages, both when about two months' pregnant, and both within the past two years. One was therapeutic. During these two pregnancies, she apparently had pernicious vomiting. One pregnancy terminated spontaneously.

Her appendix was removed three years before. She was seen in my office three months before this illness, and thorough study revealed only achlorhydria, a mild endocervicitis, and a lowered metabolic rate. At that time urinalysis and blood sugar determinations were negative.

When first seen acutely ill, she was dehydrated and semi-comatose and was therefore immediately moved to the hospital. Examination at that time revealed only a quickened pulse, with blood pressure 94/70. Constant vomiting of a brownish green fluid continued. Vaginal examination showed uterus enlarged, about size of a two months' pregnancy. There appeared to be a small mass in the left fornix.

Catheterized specimen of urine on admittance disclosed heavy traces of sugar, albumen, acetone and diacetic acid.

Blood chemistry three hours later showed a N. P. N. 56, sugar 360 mgms. In the face

of this, she was considered to be in beginning diabetic coma, with pernicious vomiting of pregnancy. Glucose and soda proctoclysis, with saline intravenously, were given, and were followed with gastric lavage. Forty units of insulin were given every two hours for three doses, then reduced to ten units at two hour intervals. This was continued for two days. Orange juice with sugar was given by mouth.

The next day, the blood sugar was 385 mgms., with glycosuria persistent. Vomiting persisted, condition unchanged. The following day, the blood sugar level had reduced to 220 mgms., with a plasma CO_2 of 60 vol. per cent. Vomiting had ceased.

Two days later the blood sugar was 125 mgms. Glycosuria continued for four days. Insulin dosage was reduced so that on the tenth day she was receiving five units, three times daily.

On the advice of the obstetrician, corpus luteum ampules were administered three times daily, for five days.

She was discharged from the hospital two weeks after admittance, free from sugar, on a low carbohydrate maintenance diet, 1456 calories.

Insulin was discontinued after one week.

She has been closely followed since last January, having been observed every two weeks.

She was allowed a full diet on February 15th and encouraged to eat freely of sweets. Careful check of urine for sugar, and of the blood for increase glucose, revealed normal findings.

Until this date, one year since the described illness, she has been sugar free, but at times has shown some ketone bodies in her urine. She has been a sub-normal thyroid individual, who also has a very low gastric acidity.

Subsequently to the acute illness, the menses were again established in February and continued regularly until September, last. Three weeks after the expected menses were due, morning nausea began, then vomiting, and on October 5th she again began to show unmistakable evidence of pernicious vomiting. All measures failed to relieve her and she was admitted to hospital three days later; at which time she was semi-comatose, vomiting continually a brownish green fluid and could retain nothing. At this time her blood sugar was

115 mgms. Blood N. P. N. 42. Sugar was absent, but acetone and diacetic acid were present, in repeated characterized specimens of urine. Proctoclysis, hypodermoclysis and gastric lavage, with bromide, per rectum, relieved her condition in four to six days.

She spontaneously aborted on the eighth day after admittance to the hospital. She is now normal and presents no evidence of a glycaemic state.

As can be seen, during this marked and definite toxic state, the patient showed no evidence of lowered sugar tolerance, and since that time, a glucose tolerance test and repeated blood sugar determinations confirm the assumption that she had not a pancreatic diabetes, but that a profound toxic state with dehydration and acidosis caused a temporary cessation of pancreatic activity, with evidence of transient diabetes mellitus, during the first of the last two pregnancies. The toxemia during each of these pregnancies was alike. The patient was similarly affected, and as profoundly toxic in both, yet the unmistakable evidence of transient pancreatic diabetes in one, and its entire absence in the other, cannot be explained.

Master J. A., age 11 years. Was seen on April 3, 1925, with all systemic signs and local chest findings characteristic of a frank, basal pneumonia. His past was remarkably free from all physical disturbances. He had had measles and mumps. His dietary habits were good, but he was about 10% underweight, and for this reason was seen and examined by me one month previously to the onset of the acute illness. At that time, besides some dental caries and a faintly positive intradermal Von Pirquet reaction, he showed no evidence of trouble. His urine was free from sugar and ketone bodies, with a specific gravity of 1010.

He was acutely and dangerously ill, from the beginning of this pneumonia. Four days after its onset, he was semi-conscious and delirious, with slight cyanosis. At this time there was no glycosuria. Two days later, when systemically he was more toxic, there was definite copper reductions in three urinalyses. Fasting blood sugar revealed an estimation of 385 mgm. per 100 c.c. blood. The patient died the following day in coma.

Hourly insulin failed to influence the blood

sugar level, or the clinical course of the fatal illness. No autopsy was obtained.

COMMENT.

In view of the fact as briefly described above, it is true that certain septic and toxic conditions may give rise to a symptom complex resembling true pancreatic diabetes.

Whether these conditions are due to faulty pancreatic secretions is undetermined, but it is probable that insulin plays only a minor role in their production.

It is undoubtedly true, that the liver is involved in many toxic states, and an increased blood sugar percentage is probably due at times to an inhibition of the storage of glycogen, or to a too rapid change from glycogen to glucose, with a consequent overflow into the circulation.

It is conceivable that diabetes mellitus, formerly considered a chronic metabolic disease, may, under especial circumstances, manifest its pathology only acutely and transiently.

Evidence is not convincing that this is true, though it is interesting speculation.

The thought that there may be a cerebral origin in certain forms of lowered glucose tolerance, is worthy of passing consideration.

CONCLUSIONS.

1. Certain toxic or septic states may cause temporary hyperglycemia and glycosuria in non-diabetic individuals.

2. The cause is undetermined, but may be due to some faulty liver metabolism as regards glycogen.

807 W. Franklin Street.

RELEASE OF PLACENTAL BLOOD DURING THE THIRD STAGE OF LABOR.*

By PHILIP JACOBSON, M. D., Petersburg, Va.

Our present knowledge of the physiology of intra-uterine conditions and of the physiology of the foetus and placenta is largely obtained from dead rather than living organisms. Research in this particular field has not lent itself very well to experiment resulting in a state of affairs which may be considered analogous to what our knowledge of other physiological processes would be were it deprived of the results of experimental evidence. Speculation, therefore, must take the place of actual information, permitting the

entrance of many erroneous ideas. Hence, the advisability of releasing the placental blood during the third stage of labor must be considered in this manner.

The purposes I have in mind of emptying the placenta of its blood immediately after the delivery of the foetus are, first, to facilitate the release of the placenta from the uterine surface, and, second, to hasten its delivery after the foetus. Both objects are obtained by reducing the volume of the placenta and by rendering it more elastic and pliable.

The placenta represents a given volume composed of blood and the placental tissues. If the blood is removed a marked reduction in volume must take place, which is greater than the volume of blood removed, due to the fact that the whole structure of the placenta is supported and made firmer by the presence of an intact capillary tree. Removal of the blood produces a collapse of the whole structure, resulting in a reduction in volume and a great increase in elasticity. It is obvious that if the removal of any material from a cavity is desired the smaller and more elastic it is, the less difficulty will be encountered during its removal. The hypothesis that, if the volume of the placenta can be suddenly decreased and its elasticity increased, the easier and quicker its expulsion will be accomplished, is not unreasonable.

The procedure is simple. After the cord has been divided and the baby taken care of, the clamp on the maternal side of the cord is removed and the blood allowed to run out. At first it will be found to be under considerable pressure, and, after about 150 to 200 c.c. will have escaped, blood will cease to flow until the first post-partum contraction of the uterus, during which considerable more will escape. During each succeeding uterine contraction, small amounts will be obtained but, in my limited experience, after the first contraction very little blood is left. The placenta can then be easily lifted by the cord through the external os and thus is readily delivered. It will be found collapsed and the amniotic sac folded over the uterine surface of the placenta.

The advisability of this maneuver is, however, quite another matter. The textbooks I have examined are unanimous in agreeing that the cord should be clamped to stay clamped until the third stage of labor is ended. The

*Read before the Southside Virginia Medical Association, at Petersburg, December 10, 1929.

reasons given are many, the most important of which are that the uterus is given a firm body to act on, the circulation of possible twins is preserved and much soiling is avoided. Mere mention of this procedure is certainly flying in the face of accepted practice, and illustrates once again the ancient dictum that "fools rush in where angels fear to tread." However, since I have released this blood on several occasions with the results mentioned above, and since it has undoubtedly occurred in thousands of cases inadvertantly and unintentionally, it might be interesting to speculate on what takes place when it does occur.

When the foetus is delivered, Williams and DeLee advise waiting for the pulsations of the cord to cease or at least markedly diminish before dividing it. They advise against stripping the cord, presuming that the contractions of the uterus force an extra amount of blood into the foetus until the pulsations of the cord nearly disappear and the interchange is stopped. In this manner about 100 c.c. more blood enters the foetus than if the cord were divided immediately after delivery. Babies handled in this manner are said to thrive better, to be less subject to disease and to lose less weight. Clinically, I believe it would be extremely difficult to blame any of the shortcomings of any particular baby upon the lack of 100 c.c. of blood. Perhaps a better criterion for the time for dividing the cord would be immediately after the baby breathes a few times. If the extra blood is necessary, it requires only a few seconds for it to enter by way of the large umbilical vein. If, during labor, too much blood has been forced into the foetus by the contractions of the uterus on the placenta, an avenue of escape is provided. There is, indeed, no proof that the baby needs more blood outside the uterus, although it is the general belief that the respiratory function introduces the need for more. The circulation between the placenta and the foetus, which is probably balanced in the uterus by the pressures produced by the heart of the foetus on the arterial side and the pulsations of the uterus against the placenta on the venous side, is suddenly unbalanced by the forceful uterine contractions. If the pulsations of the cord diminish because of some inactivity of the circulation itself, then waiting for it to stop is reasonable; but, on the other hand, just what causes the pulsations

of the cord to stop has never been determined. It may be that the collapse of the jelly of Wharton, because of its removal from a wet to a dry environment, may be as much a factor as any, and, if such is the case, then its use as an indicator of when to divide the cord is unreasonable. Practically, no harm is done if the cord is divided immediately after the baby is delivered, and such benefits as might accrue from delay are questionable. This is pertinent to the subject under discussion, because, if the cord is collapsed, the placental blood is not as readily obtained.

After the cord is divided and the placental blood is released, an immediate decrease in the volume of the placenta must obviously occur. The placenta, then, instead of waiting to be shoved from the uterine wall, although passive in itself, takes an active part in its own separation. The cotyledons and their subdivisions, which interlock with the uterine musculature, suddenly shrink, permitting their escape and allowing the whole placenta to drop into the cavity of the uterus. The questions which naturally follow are, does this constitute a premature separation, and are the blood spaces left exposed so as to permit uterine hemorrhage? The answer to the first question lies in the fact that the hemorrhage incidental to premature separation is identified with well defined pathological processes which interfere with the normal contractions and retractions of the uterus. In the event that such conditions are present, rapid emptying of the uterus is the first step in the treatment. As for the second question, the uterus is either contracting or about to contract, closing off the blood spaces in the usual manner, and, if nothing is present to interfere with its contractions, it should reduce the size of its cavity at a more rapid rate than if a foreign body were present. It will be recalled that no effort is made to protect the placental site during caesarean operations.

It is commonly accepted, however, that the uterine contractions will be much stronger if a firm body, upon which it can act, is present. To consider this properly, one would have to include the whole subject of the cause of the onset of labor—certainly an interesting and much disputed issue. That the uterus will contract forcibly without the presence of a firm foreign body is proved by the intermitted pains of menstruation and the after-

pains of the puerperium. The cause of these latter pains are certainly uterine contractions, and it is a common observation that they are very pronounced when the baby is put to the breasts, so much so that at times a sedative is necessary. This association cannot be attributed entirely to coincidence and suggests that uterine contractions are dependent far more on extra-uterine than on intra-uterine influences, especially at the time of labor. Clinically, the contractions of the normal uterus, once started, do not continue because of the presence of a foreign body. In criminal abortions, where normal uterine conditions are present, the uterus often fails to empty itself because contractions cease before the uterine cavity is empty. It may be that the placenta is more adherent at this time, but the uterus does not continue its efforts to expel it.

That the release of the blood from the placenta may cause the fatal hemorrhage of a twin is a premise not without foundation. The probability of such an occurrence is, however, extremely limited. This disaster can occur only when uni-ovular twins are present, because in only this type of multiple pregnancy do the circulations of the placentae anastomose. In multi-ovular twin pregnancies the circulations of the placentae are separate even though the placentae themselves may be physically united. The probability, then, is limited to the number of uni-ovular twin pregnancies which occur, and this has been estimated to be about one in 500 pregnancies. Twins occur about once in every hundred pregnancies and about one in five is uni-ovular. The chances are further reduced by the fact that the majority of multiple pregnancies are recognized before delivery or during the first and second stage of labor.

If these theories are basically sound, then release of the placental blood during the third stage of labor is a feasible routine procedure practically without danger and presenting the following advantages:

1. The rapid emptying of the uterus reduces the time required for the third stage of labor and permits the uterus to obliterate its cavity quicker, thus diminishing the loss of maternal blood.

2. The possibility of portions of the placenta being torn off and left adherent to the uterus is reduced.

3. In the event that pathology is present,

the placenta can be removed with less difficulty and injury.

4. The third stage of labor is practically without pain.

111 Monroe Street.

PELLAGRA AND TUBERCULOSIS—SOME REMARKS ABOUT THE PATHOGENETIC FACTORS

By OTTO F. GECK, M. D., P. D., New York, N. Y.

To summarize our present views is a rather short task if we do not wish to discuss all the details brought forward in defense of one or other aspect of the problem, but regard only what has been washed ashore by the waves of scientific endeavors. Facts stained by theories, and theories dotted by facts are what we find. The older hypothesis¹⁻² is in favor of the infectious origin of pellagra; the new investigations (C. Voegtlin³, especially those of J. Goldberger⁴ and his co-workers, are bringing into the foreground the food and vitamin factor, concerning which a recent comment of the *Journal A. M. A.*⁵ says that "it seems reasonably certain that pellagra is due to a vitamin deficiency." On a third way of approach a compensation is sought for between the contrasting views in a manner of supposing that an infection is grafted upon a physical condition that is the result of a chronic qualitative and quantitative undernourishment. However, about the nature of this infection, its causative agent, its way, seat, action, etc., we are left unclear. Experiments of inoculations to animals and man were unsuccessful.⁶⁻⁷

While from the clinical side the interpretation lacks unity, the pathological post-mortem findings are such that they do not seem to hasten to aid anyone of the hypotheses above, (but sometimes suppose an additional toxemia to explain them). Either the findings might be insufficient for this purpose, or too difficult for a clinical correlation, or the reticency might be intentional, and due to the consideration that pathological facts have to be taken as basis upon which a pathological interpretation has to grow into its own as the facts become heaped up, and must thus remain a separated domain with different methods and possibilities. The more important findings⁸ are: atrophy of the internal organs, of the tissues, and especially of the mucosa of the entire gastro-intestinal tract; inflammation and ex-ulceration of the intestinal mucous mem-

brane due to secondary infection; dermatitis with atrophy and hyper-pigmentation of the skin; atrophy of the cerebral cortex with degeneration and pigmentation of the ganglia cells; combined system lesions in the spinal cord which particularly involve the columns of Goll in addition to the anterior lateral strands.⁹ G. A. Watson² found the nearly constant presence in fatal cases of the form of central neuritis of A. Meyer at the level of the Betz cells and the large pyramids, but no evidence of a peripheral neuritis, and no special lesions of the sympathetic system. A. Pentschew¹⁰ also found these degenerative changes regularly on the giant cells of Betz, and in a lesser degree also on the motor ganglia cells of the anterior and lateral tracts. However these degenerations of the nerve cells are constant, they are not specific at all for pellagra, only the most important ones besides inflammatory, fatty changes, and alterations of the capillaries and precapillaries of the central nervous system. Pentschew draws some interesting conclusions. He does not believe in a neurotrophic property of the pellagra virus, but thinks it has a component element that is injurious to the capillaries of the brain, and causes a break down of the "barrière hémato-encéphalique." In the action of this capillary poison he sees a resemblance to that of CO, lead poisoning, or ergotismus.

We see that only vague attempts are made to decide which symptoms should be regarded as primary and of chief importance either pathologically or prognostically. For the sake of diagnosis the "dermatitis, diarrhea, depression" trias are of good service. But for the purpose of classification of the disease itself it would seem that the nervous lesions, and the symptoms due to them are outweighing the other ones, and this still more as the skin alterations are also supposed to be of neuro-trophic origin. S. R. Roberts⁷ brings the picture of a patient with birth palsy, who developed the dermatitis only unilaterally on the non-paralyzed hand. The apparent atrophy of the muscles of the hands can be explained by lesions in the anterior horns. With regard to the diarrhea, Roberts also mentions the "nervous" character, however the atrophy, the inflammation, and ex-ulceration of the mucous membrane of the alimentary tract in its different portions would account satisfactorily for it. Only where these changes are not found on autopsy in patients who

showed the rest of the syndrome while living, together with diarrhea, would it be permissible to assume a "nervous" dyspepsia. But he who would call it "toxic" then would not be less cautious. M. A. Rehfuess¹¹ is of the opinion that the functional insufficiency of the gastric mucosa in pellagra gives the impression of a toxic suppression. Anyway, *in vivo* a differentiation of the dyspepsia of the already as such diagnosed pellagrin is not practicable, though naturally it would be important to have some characteristics of the certainly pellagrous dyspepsia on-hand for aid in the diagnosis of unclear cases, since it is known that indigestion usually precedes the dermatitis. I had the opportunity last summer to make an autopsy in several cases where the clinical diagnosis was given as pellagra. They were previously treated cases (with neo-salvarsan, yeast, vitavose, etc.) and apparently improved, since it was noted that the previously existed dermatitis disappeared. In two such cases on autopsy I found a discontinuous, severe ex-ulcerative ileo-colitis. This proves that the intestinal pathology is harder to influence therapeutically, or not at all, and is probably a more fundamental change than the dermatitis. It is thus natural that diarrhea mostly precedes the dermatitis, yet our diagnosis has to wait for a later time when the alteration of the skin and mucous membrane becomes manifest. However, constipation is also common. R. H. Turner¹² has seen sixteen cases of pellagra in which the disease was associated with organic changes (mostly stricture) of the gastro-intestinal tract. Such and other accompanying aggravations of the disease might also partly account for the irregular function of the intestines. Turner doubts it that the organic trouble (i. e., the impaired nutrition) might play a rôle in the etiology of the pellagra, saying that patients without obvious organic disease who develop pellagra while taking a diet rich in fresh lean meat, make one very sceptical about accepting the current theory as to the etiology of the disease.

Neither the study of the clinical symptoms and course, nor the experiments have so far led to generally accepted results. Only the neuropathologic findings as mentioned above seem to have an unquestioned validity that would lead us to expect more explanation in the future from the neurologist than from anybody else. In what light the two contending

pathogenetic factors, the vitamin-food and the infectious factor, appear, if one had rather short and limited experiences with pellagra patients, might be seen from the following observations:

The Central State Hospital, at Petersburg, Va., where I worked for the last year, has somewhat above 2,400 exclusively negro patients, with an equal number of male and female patients. On the male side only a few pellagra patients could be seen, not more than 4 per one thousand patients, while in the female department there were constantly between 45 to 50 patients diagnosed as pellagrins, and treated accordingly, that is about 4 per cent. The number of female pellagrins is thus 10 times as high as that of male pellagrins. It is generally recognized that pellagra affects women more frequently than men. J. F. Siler and his co-workers¹ found that, out of 740 pellagrins, 528 were females, and 212 males, a ratio of $2\frac{1}{2}:1$. The care for the pellagrins did not belong to my duties; I saw them only occasionally, and on the autopsy table. The pathological work was conducted along macroscopical lines because facilities for histological examination were lacking.

Since the striking difference in the number of pellagrins in the two departments could not be explained by assuming that it is a normal ratio, help was sought in other details. It would have been very important to know how many of the pellagrins could be diagnosed as such already on admission or shortly after it, and how many can be suspected as having developed pellagra in the institution due perhaps to unnoticed refusal of food, as it is common with insane patients, or to temporary seasonal fluctuations in the diet. But all patients belonging to the same class of farm and other unskilled laborers with lowest standards of living, it can be supposed that their life outside the institution on a whole did not encounter greater variations than inside. As possible influencing circumstances, but two things must be looked upon more seriously: the difference in habits, and in the tuberculosis situation of the two departments, (the diet in both being the same), even if their significance will seem not very convincing. As first should be mentioned the negro man's habit of intensive tobacco chewing. To what degree they are addicted to this habit can only be judged in an institution where life is concentrated, under close observation, and where chewing

is indulged in even by those who, outside of it, would prefer smoking, but are prohibited to do it in the hospital. Women also chew occasionally, though, on a whole, far less than men. The idea occurred to me whether it is not possible that the chewing tobacco used permanently contains some protective quality that was conveyed upon those enjoying it. Though chewing tobacco undergoes during the process of its preparation a certain amount of heating and pickling, it seemed not impossible that some "P-P" agent in the sense of J. Goldberger escaped destruction, and that the more since Goldberger's "P-P" factor in yeast is thermostable. How this principle—if present at all—should be identical with some "vitamine" does not need explanation now. In the literature at my disposal nothing could be found about the "vitamine" content of tobacco. Experiments on animals (rats) seemed a futile undertaking because it is not the "vitamine" but an eventual "P-P" factor we are interested in, and because McCollum *et al.*¹³ were unsuccessful in trying to produce pellagra in rats with the deficient diet of Goldberger and Wheeler, and even the results of the artificially produced pellagra in men by Goldberger are not accepted generally as conclusive.¹⁴ On the other hand, Goldberger and Lillie¹⁵ produced a pellagra-like condition in rats after a seven weeks' special diet, but they themselves cannot exclude entirely possible errors and doubts. There seems to be a tendency to doubt whether conditions in animals brought about by some kind of one-sided diet are really identical with some conditions in men that we only would like to be due to the same way of feeding we use in experiments. Thus the experimental polyneuritis of birds is no more regarded as true beri-beri.² The easiest way to test the chewing tobacco seemed to be the human experiment on pellagrins. Upon my suggestion, Dr. F. C. Hyatt who is in care of these patients agreed to start the test; however, we could not find any more suitable patients at that time, all standing under some other treatment already, and one more recently detected female pellagrin refused to take the tobacco. It remains for workers in institutions with a number of untreated patients large enough to allow the experiment at all, to see whether any practical worth could be attached to chewing tobacco. A positive result would mean not only economy

in prevention and treatment but would be interesting beyond it.

While the testing of chewing tobacco requires to have some belief in the food-vitamin factor, some facts arrived at by comparing the autopsy results of the hospital with the pellagra situation there would seem to bring the infectious factor into the foreground, but in the same questionable way, and with the same necessity for further observations, as in the case of tobacco. In the half year March-September, 1929, I made sixty-eight autopsies at the hospital. I wish to deal here only with fifty autopsies made up to July 1st, for which number I had the opportunity to make an analysis with a view toward the incidence of tuberculosis. All were unselected cases, twenty-eight being male, and twenty-two female patients. The age of the patients on death ranges from seventeen to eighty-four. On autopsy the tuberculous infection of the lungs alone was still apparent in twenty-one cases, i. e., in 42 per cent of the total number. Of these, thirteen were female patients (59 per cent of all the female patients autopsied), and eight were male patients (28.5 per cent of all the male patients autopsied), who had some macroscopically recognizable tuberculous lesion of the lungs (in some cases also of other organs). Tuberculosis of the lungs alone or as the chief pathology was responsible for the death of the patient in eight female cases, i. e., in 36 per cent of the autopsied female patients, and in 5 male cases, i. e., in 17.8 per cent of the autopsied male patients, while in three male cases (10.7 per cent), and in five female cases (22.7 per cent) the tuberculosis was only an accessory finding in the form of a solitary arrested focus or of a slight cirrhosis.

Although the total number of cases autopsied is not high, yet it makes a high percentage of deaths of the period mentioned (70 per cent autopsies of a number of seventy-one deaths occurred up to July), and is therefore an approximately fair cross section of the pathological conditions figuring as death causes. The numbers show that a very high percentage of the patients who died (36 per cent of the female, 17.8 per cent of the male patients) died of pulmonary tuberculosis. The percentage of the female patients is under every point of view twice as high as that of the male patients. The occurrence of macroscopically recognizable lung lesions is 59 per cent in fe-

males, 28.5 per cent in males; the percentage for death from pulmonary tuberculosis is twice as high in females as in males; an accessory tuberculous lesion was twice as frequent in women as in men. The susceptibility of the negro race to tuberculosis is well known. To illustrate the mortality of the negro population of the State of Virginia from tuberculosis and pellagra, I wish to give the figures I received from the Virginia State Department of Health:¹⁶

	1927		1928	
	Urban	Rural	Urban	Rural
Estimated population (colored)	206,965	503,035	207,519	504,381
Pulmonary Tuberculosis				
Deaths	310	841	297	857
Rate*	149.8	168.9	143.1	169.9
Tuberculosis—Other Forms				
Deaths	50	83	55	82
Rate*	24.2	16.5	26.5	16.3
Pellagra				
Deaths	17	34	19	72
Rate*	8.2	6.8	9.2	14.3

*Rate per 100,000 population.

The figures show that while the total number of deaths from all forms of tuberculosis in 1928 was almost the same as in the previous year (1,291 and 1,284, respectively), the pellagra mortality rose from fifty-one deaths in 1927 to ninety-one deaths in 1928, corresponding to an increase of 78 per cent. The corresponding mortality figures from pellagra in the hospital are not at my disposal, so, if any comparison of the figures is permitted at all (the hospital is receiving its patients from all over the state as the only colored institution in it), we can only say that the much higher tuberculosis figures of the hospital are also connected with much higher pellagra figures—at least as far as the morbidity is concerned. It is still more striking that the twice as high percentages of the female department for tuberculosis are associated with a ten times higher incidence of pellagra, as compared with the male department. We find here in the female department the tree of pellagra growing up in the shadow of the tree of tuberculosis. Why the male side has less pellagra than would be proportionate is not clear, unless we take refuge to the chewing tobacco, or to the fact that the male patients have more outside occupation there

which lessens naturally the time of close contact, and makes again for more resistance, if we regard things from the angle of infection. It seems to me the fact is very remarkable that an extensive tuberculous infection in a separated and closed group of patients exists at the same time together with a high pellagra incidence. The doubtful, and not yet diagnosed pellagra cases, might certainly increase the percentage. How high, on the other hand, is the actual incidence of tuberculosis in this female group cannot be said. Those detected with an active process are naturally separated. But the 36 per cent mortality would point toward a considerable morbidity. A new chest examination of all the female patients has been taken into consideration, but was not carried out. There is no doubt thus that undiagnosed pellagrins and tuberculotics happen to live together. In this connection, it is interesting to read an older statement of J. F. Siler,¹ who says that he studied pellagra in the Peoria State Hospital when it had 175 cases (8 per cent) pellagra of the inmates, and during the same period seventy-five inmates with active symptoms of tuberculosis, also an epidemic of amebic dysentery.

The close connection in time and place between tuberculosis and pellagra, as indicated by our example, is naturally suggestive for the supposition that some relation must exist in the etiologic factors and pathogenesis of both diseases. The contributory rôle of inadequate food and of lack of vitamins is mostly considered as important in the genesis of tuberculosis. Their importance is also clear in the therapy of both conditions. And it would be convenient not to go further when seeking the cause of the coincidence of pellagra and tuberculosis in the same place, as to the food-vitamin starvation that in one case facilitates the tuberculous infection, and in the other the development of pellagra. I do not wish to make further use of the food-vitamin factor in this combination because it seems well understood, although it leads only back to a theory that has been met by everybody, but to no real explanation. However, another way is also possible in this speculative field in which some kind of answer is wanted for the why of the coincidence.

The lower figures for the negro population of the entire State of Virginia as regards tuberculosis and pellagra show that conditions for the group of hospital inmates under con-

sideration are different, and that some aggravating cause is at work that increases both the pellagra morbidity, and the tuberculosis mortality. We can assume either that any patient in the group has no other chances to contract a new tuberculous infection but from somebody in the group. But a flare-up of an old latent infection is naturally also possible; also that the patient had a more or less active process all the time since commission that dates back similarly to an earlier outside infection. As regards pellagra we also do not know the exact onset, and whether at a given moment we have to deal with a first attack, or a chronic or subchronic condition, since the anamnesis of the patients of our group mostly cannot be had, nor clear details about the course of the disease. Also, many might be sent in on account of psychotic symptoms due to pellagra. However, some more or less satisfactory classification will always be feasible if long time observations are on hand. After the number of the doubtful patients is omitted, there still will remain the class of those whose pellagra and tuberculous reinfection (or reactivation) originates inside the hospital, and these ought to be peeled out of the mass and isolated if we want to search for any mutual influence of the two diseases upon each other with more hope for success. At the present this cannot be done, and I am unable to say how large this number is in our case.

About the resistance of those who at a certain moment have neither of the two diseases, we cannot form a clear opinion, since later they still can fall sick from any of the two diseases. Certain it is that in the whole group there is always a majority which dies neither from tuberculosis nor from pellagra, and must be regarded as having had a successful resistance through many years against both. Scattered in the papers of older authors one finds expressed the interesting view that pellagrins are apparently "immune" against tuberculosis. S. R. Roberts⁷ says that rare cases are associated with tuberculosis. The big complex of questions concerning the immunity against tuberculosis should not be rolled up here, especially the "natural species resistance" in man as something opposed to "acquired" resistance should not be debated.¹⁷ It has been doubted for long whether "acquired" resistance against the tuberculous infection exists. H. Selter¹⁸ states that the immunization of cattle has been successfully accomplished in some cases, but

it lasted only for 2 to 3 years. Immunity resulted only on those animals in which, after the preliminary treatment with human bacilli, a tuberculous diseased focus developed. But if such foci produced through human bacilli heal completely in cattle, what conditions the simultaneous disappearance of the immunity? In guinea pigs it was also possible to produce a doubtless tuberculous immunity. The immunity of an infected animal, however, diminishes or entirely disappears at the same moment when the tuberculous infection becomes active. Applied to man, he says that on the basis of these experiments we are justified to regard man as immune in the moment of transition to healing, and as long as there exists a tuberculous focus. And as long as this exists the immunity will be the strongest. But even then we have to deal with a labile condition that can be injured or broken down by various causes. In other words, not everybody who is tuberculous is also immune; but everybody immune against it must have to a certain degree tuberculosis.

If we agree with this conception of tuberculous immunity, and accept for a moment without further criticism the alleged rarity of tuberculous infection or the immunity against it in pellagrins, they become only intelligible if we assume that pellagrins as a rule suffer from a tuberculous infection. And, if we search for it, there is only one thing that we can take as the protective tuberculous infection to satisfy our need for it, the pellagra itself. It certainly sounds strange that pellagra should be nothing else but a specific form of tuberculosis, even if offered as a mere speculation; and even still more that this special form of infection, due to its being characterized in fatal cases most constantly by anatomical changes of the central nervous system, should be rather a "neuro-tuberculosis" than anything else. The term of a filtrable form of the tubercle bacillus (ultravirus) could be made serviceable for our purposes; however, it is still much under discussion itself (A. Calmette et al.¹⁹—H. E. MacDermot²⁰), and would give no immediate results. The postulated neurotropic tendency of the tuberculous virus would not present such a difficulty that cannot be overcome at the present status of our views on this subject if we remember the recent changes in our conception of the neurotropism of the *Spirochaeta pallida*.

It is not believed anymore that there is a special variety of the *Spirochaeta* producing a special virus nerveux. The possibility of this virus nerveux has been dropped even as regards the pathogenesis of neuroles (F. Wirz.²¹ G. M. Lewin²²). The idea of the neurotropism of the syphilitic virus experienced a new formulation by I. L. Kritschewski and E. S. Heronimus,²³ who found that the strains of the *Spirochaeta pallida* cannot be divided into neurotrope and dermatrope because the tropism of the *Spirochaeta* to the central nervous system is absolute. Evidences that the tuberculous virus also possesses this absolute kind of tropism are not entirely missing, since it is known that in tuberculosis the same spinal cord degenerations occur as in pellagra, or in leucemia, pernicious anemia, and cancer. But, on the whole, there is no explanation at my disposal to clear it up how could it be made more plausible that a tuberculous pathogenesis must be in play in pellagra, excepting the peculiar coexistence in a secluded group of patients of a high pellagra and tuberculosis percentage, the alleged "immunity" of pellagrins against tuberculosis, and the consequence this immunity involves. In the end, we can say as much that it is not proved at all that pellagra and tuberculosis as a rule exclude each other in the same person. But if we believe in it, we can also believe that the cause is that both are tuberculous in nature, and pellagra yields an apparent immunity against the known clinical forms. Or we can say that pellagra and tuberculosis are different nosological entities, and their mutual absence is based upon hidden interrelations. We will not then know more. But we can also disregard the spare remarks on "immunity," and draw no consequences from this side as to their common origin. In this event, only the coincidence of a high pellagra rate with a high tuberculous mortality remains that could move us to try to see what has a common food deprivation to do with both, or some unknown other conditions. I wanted only to put up my questions regardless whether they look sufficiently promising to be stimulating for further work in this direction or not. But the constellation of things threw them up, and lends them a limited justification.

SUMMARY

1. At the present stand of our knowledge about pellagra, neither the dietary factor in

the pathogenesis can assert a universal recognition, nor can it be said that the infectious hypothesis is entirely rejected.

2. In both directions further experiments are suggested in such a special manner as circumstances in a group of observed patients make them desirable. On the one hand, chewing tobacco could be tested for eventual pellagra-preventive properties. On the other hand, the collection of data is needed to give elucidation to the questions how far are pellagrins "immune" against pulmonary or other tuberculosis, and whether pellagra itself is not possibly a special (nervous) form of tuberculosis.

Acknowledgments: My sincere thanks are due to Dr. Ennion G. Williams, State Health Commissioner, Richmond, Va., for supplying me with the statistical data under sixteen; also to Dr. F. C. Hyatt, Petersburg, Va., for his readiness to support the experimental idea in his pellagra department.

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Woman's Auxiliary, to the Medical Society of Va.

The Executive Board, Woman's Auxiliary to Medical Society of Virginia,

Held a meeting in Petersburg, May 20th, for the purpose of electing a president-elect to fill the vacancy caused by the death of Mrs. Edwin J. Nixon, of Petersburg. Those present were Mrs. F. W. Upshur, Richmond, president, Mrs. Southgate Leigh, Norfolk, Mrs. J. Allison Hodges, Mrs. W. B. Porter, Mrs. N. Thos. Ennett, and Mrs. Joseph Bear, of Richmond, and Mrs. Meade Edmunds, of Petersburg.

Mrs. J. Allison Hodges, who was unable to accept the presidency of the Auxiliary several years ago on account of illness in her family, was elected to fill the vacancy and will thus become president at the next annual meeting. The Program for the Fall meeting was then discussed, following which the visitors were entertained at luncheon at the Country Club.

Delegates appointed to represent the State Auxiliary at the Detroit meeting of the National Auxiliary were Mrs. R. U. Burges, Norfolk, and Mrs. J. W. Preston, Roanoke; alternate, Mrs. Jos. D. Collins, Portsmouth.

The Woman's Auxiliary to the Richmond Academy of Medicine

Was asked by the Academy to help to decorate a float for Adventure Day parade held in Richmond in May. The float represented Dr. Walter Reed's experiments with yellow fever and won the silver cup as the best float in the educational division of the parade. The doctor and the nurse who took part in the tableau were both with Dr. Reed in Cuba at the time of his work.

Study Programs for County Auxiliaries.

In our May issue, page 121, we explained the STUDY PROGRAMS FOR COUNTY AUXILIARIES which have been prepared for the Woman's Auxiliary to the American Medical Association. These programs especially considered COMMON DEFECTS IN CHILDREN. In June, the subjects discussed were "Nose and Throat," "Eyes" and "Teeth." The following is a continuation of the subject with a discussion of other defects.

(Continued from page 193)

WHAT IS BEING DONE BY HEALTH AGENCIES,
OFFICIAL AND UNOFFICIAL, FOR THE DISCOVERY
OF PHYSICAL DEFECTS IN CHILDREN?

The Summer Round-Up of the Children carried on by the National Congress of Parents and Teachers is one of the most wide spread attempts to solve this problem. The work as planned and as being carried on has the hearty approval of the American Medical Association. We feel that in discussing this work it would be well to emphasize the importance of having the work done with the cooperation of the County Medical Society. It ought to be made clear in this connection that those who are able to pay for medical services should not expect to receive without any charge the services that physicians are quite willing to render to those who are unable to pay.

The following is taken from the leaflet, "Is It Well With the Child?", prepared by the National Congress of Parents and Teachers:

The home can make no greater contribution to the school than a scholar mentally and physically prepared to take advantage of what the school has to offer it.

In this belief the National Congress of Parents and Teachers inaugurated in 1925 a nationwide Campaign, "THE SUMMER ROUND-UP OF THE CHILDREN," to send to school in the entering grade, a class of children 100 per cent free from remediable defects.

The response, not only within the Congress membership but from educators, health workers and the medical and dental professions, and the results obtained in forty-four states thus far included in the registration, have proved beyond question the value of the undertaking.

Based upon the remarkably fine pre-school health work done by state officials, particularly in California and Georgia, the Campaign promoted by the Congress claims but two original features beyond its name: (1) it secures correction of defects and demands a second examination in the autumn, with a checking up of the defects *corrected*; and (2), it stimulates parent pride to put parent power to work, so that the children of Congress members may be a credit to the homes from which they come.

While establishing and maintaining the closest and most helpful cooperation with state, county and local health agencies, the

Summer Round-up also engages the personal activity of parents and guardians in doing, or helping to do, that which has too frequently been held to be the business of the school or of the health authorities. In state or agency health work, as a rule, those most easily reached are those who must look to the more or less "benevolent" hygiene teaching; or when a wider range is covered, it is through the school with no direct contact with the home.

Moreover, because of the extensive field to be covered by the professional health worker, only in a few instances can this teaching be carried beyond a first examination and recommendations as to care and treatment. It has seldom been found possible to maintain the work over a period of months or to check the results before the opening of school, so much of the valuable service rendered by health authorities goes to waste for lack of time, money and personnel to follow it through to a satisfactory conclusion.

It is this gap which the Summer Round-Up of the Children is designed to fill. Much fine cooperative effort is being expended by welfare and civic organizations of various types, on philanthropic lines and with excellent results, but the special method of the National Congress of Parents and Teachers cannot be duplicated, because of the unique position held by this organization, working in and through the schools and thus being able, through its 20,000 units, to secure action *by* the people instead of *for* the people,—a course which is necessary if the results are to be permanent.

When parents become fully educated to their responsibility for their children, and realize that not only at the pre-school period is an inspection desirable but at periodic intervals from the time of birth onward, then the Round-Up as a special activity will become unnecessary. Children will be examined at regular intervals by the family physician and parents will pay an adequate fee for the service of keeping them well. But we have not arrived at the time when preventive medicine is fully understood.

Enlistment in the Campaign is open to all associations in membership with the National Congress. This restriction is made, not as limiting the work of pre-school examination or confining it to any one group, but in order that it may be possible to ascertain exactly the corrective value which this type of or-

ganization, operating on a system different from that of any other, may possess. The member units of the Congress are urged to make this Campaign an annual feature of their program.

When the final report shows compliance with the National Requirements and a correction of defects, the association receives a certificate signed by the U. S. Commissioner of Education and the President of the National Congress of Parents and Teachers.

Fear has been expressed by some members of the medical profession that this movement might introduce the entering wedge for *free medical and dental treatment*. It should be clearly understood that this idea is exactly contrary to the principles of the Round-Up, which is absolutely *opposed to free medical or dental care* in this connection. All children are referred to their family practitioners for correction of defects discovered, except in cases of actual financial inability, when the Red Cross, the Anti-Tuberculosis Association or some other benevolent agency may be asked to assume the responsibility and provide for the necessary professional service.

A free medical and dental *inspection* is recommended for this reason: the Summer Round-Up is a challenge to the local parent-teacher or pre-school association to perform a great service for its school, and its major object is a class 100 per cent free from defects. If the physical examination or inspection which the Round-Up requires should be made a matter of expense to the parents, there are many whose children seem well—or well enough—who will hesitate to spend for a visit to a doctor the money which would supply many small comforts or pleasures; and therefore only the children of those financially able to disregard the cost, or the children of the poor who may be gathered into the free charity clinics, will benefit. But it has been clearly demonstrated that when, through the free *examination* held in the school for *all* children, parents are made aware of defects in their boys and girls, *they no longer hesitate to seek the remedy, but place them at once under professional care*. When this arrangement is clearly understood, there is rarely any unwillingness on the part of medical or dental men to give their services for the physical inspections.

Another point should receive attention. Whenever possible, the steps to secure the co-

operation of doctors and dentists should be taken through the county medical and dental societies, with which professional men in good standing are usually connected. These official groups should be requested to assign to this duty the men best qualified to examine children, and through this channel the best service will be assured. Some county associations, however, are not well organized and do not function efficiently, and in such cases it will be necessary to apply directly to the local doctors and dentists for assistance.

The American Dental Association says that upon the condition of the first teeth depends in large measure that of the second set and consequently the whole condition of the child. When dentists consider it unnecessary to give the needed attention to the first teeth, parents should insist upon the proper treatment. The four years of the Campaign have shown that dental defects are present in an appalling majority of our pre-school children, and especial emphasis should be laid upon their correction.

The Summer Round-Up has prepared an examination form which does not claim to be exhaustive, but which covers all the points necessary to be considered in determining the fitness of a child to enter school. Drawn up by three members of the Advisory Committee whose work fits them particularly for such a task,—*Dr. John M. Dodson of the American Medical Association*, *Dr. LeRoy A. Wilkes* and *Dr. Harold H. Mitchell of the American Child Health Association*,—this form requires a thorough examination such as should occupy from twenty to twenty-five minutes. If local health authorities desire to use the forms provided by their State Departments of Health, this may be done, provided that the points called for by the Round-Up Blanks are transferred to them, in order that the returns to the Campaign Office may be complete and the national statistics may be correctly compiled.

The growth of the Summer Round-Up from a group of 102 units in twenty-one states in 1925 to an enrollment of between 2,500 and 3,000 associations in 1928, in forty-four states and the Territory of Hawaii, indicates that its field will eventually be limited only by the extent of the Congress organization. If every parent-teacher and pre-school association in Congress membership, recognizing this great opportunity for service to home, school and community, will assume this responsibility, then to the question, "Is it Well With the

Child?" they may answer as with one voice, "It is well."

The following brief tabulation will show some of the results accomplished:

	1925	1927	1928
Number of children examined---	1129	13768	19048
Number of Defects Discovered--	2693	17857	39346
Number of Defects Corrected----	599	6262	11898

(To be continued)

Correspondence

An Open Letter to the Medical Profession of Virginia.

We have received the circular letter of our worthy State Health Commissioner, Dr. E. G. Williams, under date of May 8th, in which he states as follows: "The 1929 records for typhoid and paratyphoid fever were the most creditable this State has ever shown. In 1913 there were 6,368 cases and 709 deaths; in 1929, 853 cases and 121 deaths." It will be noticed that in 1929 there were *fewer* deaths, yet the percentage of mortality was *increased*, that is, 11 per cent in 1913 and 14 per cent in 1929.

In 1927, I published a paper on Typhoid Fever in the *Medical Review of Reviews*, of New York, in which I showed that in Virginia in 1925 there were 2,099 cases and a mortality of 14 per cent. It will thus be seen that in Virginia the mortality for this disease in 1913 was 11 per cent, in 1925, 14 per cent, and in 1929, 14 per cent,—no let up in mortality. This is a bad showing. We ought to do better. Now let us all pull together and see if we can make such a record for 1930 as will please our Health Commissioner and reflect credit on our State.

The following is an extract from a paper by the writer, published in the *Medical Review of Reviews*, December, 1927.

I would be glad to send a reprint of the paper from which this abstract is taken, giving full details of treatment, to any physician who may wish it.

Fraternally yours.

CHARLES S. WEBB, M. D.,

Bowling Green, Va.

May 29, 1930.

ABSTRACT OF DR. WEBB'S PAPER WHICH APPEARED IN MEDICAL REVIEW OF REVIEWS

Why not stamp out typhoid fever? It is a preventable disease. There is something wrong when there is yet so much typhoid fever in our country. The official report of the U. S. Public Health Department for 1926 is not yet complete, but I have before me the report for 1925, and in that year there were in the United States 46,227 cases of typhoid fever, with 9,726 deaths, over 21 per cent. Cases reported for New York State, 2,900, mortality 13.8 per cent; cases reported for Virginia, 2,099, mortality 14 per cent. This is appalling, just think of it, taking the country as a whole we have 46,227 cases of this preventable disease, and about one in every five dead. We ought not to have so many cases, and surely the mortality rate is too high. It may be the poverty of the surroundings, it may be the lack of suitable nutrition, or the lack of good nursing, or it may be the fault of the medical profession. Let us realize that we have a serious disease to deal with, and one that requires patience and careful watching. My personal experience with this disease in the past twenty years (or more) has been 120 cases with two deaths, or one and two-thirds per cent. Both fatal cases were old men with enfeebled digestive organs. One died two weeks after the fever left him because he could not digest anything at all in any shape or form. The other old man died very much the same way, in the fourth week. These cases embraced all ages, from early childhood to old age, both sexes, black and white. Typhoid fever is a self-limited disease and if you can keep the patient alive long enough he will get well.

The great desideratum, then, is to keep the patient alive. There is no better guide than the summing up by Loomis in those wonderful lectures at New York University. Here they are, as he repeated them with great emphasis: "Keep down the temperature, keep up the nutrition, watch the convalescence."

KEEP A-TRYIN'.

If you strike a thorn or rose
Keep a-wishin'!
If it rains or if it snows,
Keep a-wishin'!
'Taint no use to fret and whine
When the fish ain't on your line.
Bait your hook and brace your spine,
Keep-a-fishin'!

—LONGFELLOW.

President's Message

Under the leadership of the American Medical Association practically the whole Medical Profession of the United States has been organized on the basis of the county unit. These county units in each state are grouped together in state associations, but the unit still remains the county.

As a whole this plan of organization is working very well, but in some cases, as is notably true in Virginia, some of the counties are so small, and there are so few doctors practicing within their boundaries, that it is impossible to maintain a well-functioning scientific society. To rectify this condition the constitutions of the state associations allow a grouping of county societies more especially for scientific and educational purposes. This, however, does not prevent the counties from having local societies for business purposes, even though such counties be grouped otherwise in a scientific association.

I feel that every one of us agrees that such a plan is necessary in the State of Virginia. Indeed, we already have many of these group societies, which cover the larger part of the state. These group societies, however, have been formed for different purposes and at times one county may be included in several group societies.

Certain of these group societies, such as the Post-Graduate Medical Society and the Clinch Valley Medical Society, allow their component counties to have individual business organizations and individual delegates to the Medical Society of Virginia, although they meet together for scientific and educational programs. I feel that such organizations might well be formed to cover the whole of the State of Virginia, making use of existing group societies which, however, will have to be changed at times in order to conform with the rest of the state.

It is furthermore recognized that the group societies should be as elastic as possible. Thus if one county feels that it could do better work

with the next-door group rather than with the group with which it was originally placed, I can see no reason why such a county should not be allowed to change. The same plan of organization will not suit all group societies. Thus the two societies which we are using as models have different plans. The Clinch Valley Medical Society only meets twice a year and has Educational Clinical programs at every meeting; the Post-Graduate Society meets in turn in each of its component counties, but furnishes papers from its own members to make up its program. Other societies, such as the Southwestern Virginia Medical Society, combine these two features, having their guests in the evening and having papers from their own members the next morning. There is no reason why any one of these plans, or further modifications of them, should not be used in group societies.

It is proposed to have such a plan of reorganization discussed at the next meeting of the Medical Society of Virginia. This will not in any way change the Constitution, which allows the grouping of county units. It is, however, very necessary to have as full a discussion as possible by representation covering the whole State of Virginia. I am, therefore, urging every local society in Virginia to see that it is represented by at least one delegate and alternate in our House of Delegates. The plan to be discussed is only a tentative one, and it is most necessary that each county have the chance to express its wishes in regard to this grouping. It is impossible for the President of the Society to know all local conditions, but he is desirous of forming a plan which will be as permanent as possible, and be of the greatest benefit to the individual doctors throughout the state. To do this efficiently the doctors from all sections should criticize the plan and tell how it can be improved so as to meet their local needs.

CHARLES R. GRANDY, M. D.,
President, Medical Society of Virginia.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Continuation Education for Practitioners.

A considerable amount of work has been done during the past month looking to the enlargement and perfection of educational and clinical courses for practitioners for the future meetings scheduled for the early Fall and Winter.

One of the subjects now being thoroughly considered and digested, and which will be submitted soon to the members of the Department for their approval, is an individual plan of instruction in the newer methods of prenatal and post-natal care of expectant mothers.

If the proposed plan is approved, it will be tried out in two or more strategic counties, if desired by the local physicians, and if successful, will then be applied elsewhere as occasion and necessity suggest.

Scheduled Meetings.

Arrangements are now being completed for holding clinical meetings during the Summer and the first of these meetings will be held in Harrisonburg, Fredericksburg and in the Northern Neck.

—At 6:00 o'clock on Tuesday, July 15th at Emporia, immediately after a dinner served in the American Legion Hall, the Post-Graduate Medical Society of Southern Virginia, Dr. M. H. Tredway, of Emporia, President, will hold a conference clinical meeting. This Society is composed of the counties of Nottoway, Dinwiddie, Prince George, Greensville, Brunswick, Surry, and Sussex.

—In September the Clinch Valley Medical Society, Dr. J. B. Wolfe, Coeburn, President, will hold its Fall meeting.

—On Tuesday, September 30th, beginning at 2:00 P. M., a clinical meeting will be held at the time of the dedication of the new Medical Arts Building in Petersburg, also under the auspices of the Post-Graduate Medical Society.

—On October 2nd, 3rd, and 4th, the University of Virginia will give a course of Post-Graduate clinics.

—On Tuesday, November 18th, beginning at 2:00 P. M., a clinical and scientific meeting will be held at Burkeville with Dr. W. H. Venable, Superintendent and Medical Direc-

tor of the Piedmont Sanatorium, and the Post-Graduate Medical Society cooperating.

It is probable that in addition to the scientific papers, there will be an exhibition of serial X-ray plates illustrating the various lesions of pulmonary tuberculosis, and their progress both for better and for worse, and also plates illustrating the influence of artificial pneumothorax and phrenectomy on the diseased lung.

As this is the first tubercular clinic that has been opened to the whole profession in this section, although several have been held by the Staff of the Sanatorium for negro physicians, it is expected that this demonstration of the latest methods and procedures in the treatment of tuberculosis will be unusually valuable.

—More complete and detailed information as to all of these clinical meetings will be published later, and great attention is being paid to the arrangement of the various programs, so that they will be different and practically instructive.

The general profession is most cordially invited, and it is hoped that, as the meetings have been arranged for afternoon and night sessions, due to the season of the year, there will be a large attendance.

Report of the Committee on the Grading of Nursing Schools.

Because this report has just been issued, and because of relations existing between Doctors and Nurses, it has been thought that a summary of the findings might be interesting at this time.

The Committee, William Darrach, Chairman, presents a few of the outstanding findings from the two year study of nursing economies, which it carried on in order to secure a fact basis for grading schools of nursing.

The report considers in some detail the production, education, distribution and pay of nurses.

Among other statements is the fact that there are now too many nurses, as follows:

"The supply of nurses is increasing far more rapidly than is the general population. In the United States in 1900 there was less than one

graduate nurse in active practice to every six thousand people. Today there is more than one graduate nurse in active practice to every six hundred people.

"The reason for this amazing increase is that unlike any other professional institutions of which we have record, hospitals prefer student service to graduate service. In their effort to secure a steadily increasing supply of untrained student material they send away over 25,000 new graduates a year; the greater part of whom must try to earn their livings in the already overcrowded field of private duty nursing. The demands for nursing have also increased, and rapidly, since 1930, but the growth in demand lags behind the growth of supply. . . . There is unemployment in nursing. With the exception of periods of epidemic, there has apparently been unemployment in nursing every year for the past five years, and every year it is getting worse. Nursing has become an over-crowded profession."

In speaking of the annual output, it says, "It is because the training school was successful that its development has been extraordinary. The contrast between medical schools and nursing schools is illuminating. In 1880 there were 100 medical schools; in 1890 there were 133; in 1900 there were 160. Shortly after that time the medical profession cooperated in a nation-wide survey of medical schools, which attracted attention to the importance of higher standards. The result was an immediate and widespread campaign for the purpose of raising the quality of medical education.

"While apparently there was no concerted attempt to reduce the numbers of medical schools, that was, in fact, one of the results. The numbers of schools decreased steadily until 1929 there were only 76, compared with the 160 of 1900. Nursing schools, on the other hand, showed a totally different picture. In 1880 there were 15; in 1890, 35; in 1900, 432; in 1910, 1,129; in 1920, 1,775; and in 1927 the number had risen to 2,247. During the past two years, apparently, the number has slightly decreased, so that in the spring of 1929 there were apparently about 2,205.

"The numbers of graduates have kept pace with the numbers of schools. In 1880 there were a little over 3,000 graduates from medical schools. By 1900 there were over 5,000. Then came the reorganization of medical edu-

cation, and the numbers of graduates dropped rapidly until, in 1920, there were barely 3,000, and in 1929 the number had again increased to about 4,400. The Commission on Medical Education estimates that the number of graduates each year from now through the next forty or fifty years will probably remain at just about the 4,000 mark.

"In nursing in 1880 there were 157 graduates for the entire country. In 1890 there were 471; in 1900 well over 3,000; in 1910 over 8,000; in 1920 about 15,000; in 1926 almost 18,000. In 1929 there were 25,300. The numbers of nursing graduates are rising with startling rapidity. The rate is far beyond that of the increase in the general population."

The Contents of This Report Are Summarized as Follows:

"1. The supply of active graduate nurses in the United States is increasing far more rapidly than the general population.

"2. There is serious unemployment among nurses. This unemployment grows worse yearly.

"3. Yet there are shortages of nurses in some fields.

"a. Geographic distribution is uneven. Nurses tend to live in cities and avoid the country. They are apt to be found near good hospitals, and not apt to be found in regions where hospital facilities are lacking.

"b. There is a scarcity of nurses properly prepared for nursing in certain specialties—as mental, contagious, heart, obstetrics, etc.

"c. There is a shortage of nurses who have had systematic preparation for executive and teaching positions in institutional or public health nursing.

"4. Earnings of nurses are low. They are lower in private duty than in either of the other two main fields. In private duty there is practically no opportunity for professional advancement or increased pay.

"5. Physicians want intelligent nurses. They prefer graduate nurses to practical nurses. They prefer well trained nurses to poorly trained nurses.

"6. Educational standards in nursing are rising, but educational standards in the community are rising much more rapidly. If nursing is to attract women of the so-called professional type, it must set its educational standards high enough so that it can compete for

students with the other professions now open to women."

Information.

All members of the State Society are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Acting Executive Secretary, Mr. George W. Eutsler, P. O. Box 707, University, Va., or to the Chairman of the Department of Clinical Education, 5 East Franklin Street, Richmond, Va.

Proceedings of Societies

The Fauquier County Medical Society

Was entertained by Dr. George H. Davis and Dr. M. B. Hiden, at the residence of Dr. Davis, Warrenton, Va., on May 26th, at 8 P. M. Dr. Wade C. Payne, President of the Society and Chief of Staff of the Fauquier Hospital, presided.

Dr. J. Elwood Knight, Councilor of the Medical Society of Virginia, made the speech of the evening. His subject was "County and State Medical Societies and Clinics for Physicians." He told us of the wonderful work that these societies have done and are doing and their program for the future. His speech was very instructive and well delivered and in every way worth while. His talk was discussed at much length by Drs. Richard Mason, M. B. Hiden, J. Frank Folk, E. N. Lillard, J. T. Sprague, J. R. Allen, Prentiss Bailey.

Dr. Knight moved to have the By-laws revised. This was seconded by Dr. Lillard and was passed. Dr. Payne appointed Dr. John T. Sprague, Dr. J. R. Allen, Dr. J. E. Knight the committee to revise the By-laws.

Dr. Sprague moved to have the program of each meeting published to the doctors well in advance of the meeting. This was seconded by Dr. Hiden and passed.

Dr. Sprague then made a speech, full of constructive criticism, on the use of the hospital as a clinic and a teaching center. This was well received and was discussed by a large number of the doctors. Dr. Payne in discussing this matter, made an excellent speech on tularemia.

Dr. J. Frank Folk spoke well on how our medical meetings should be conducted.

Dr. Payne and Dr. Allen discussed taking Prince William County into this society, but this question was deferred until the next meeting, to allow further consultation with the physicians of Prince William.

Dr. J. R. Allen was elected delegate and Dr. George H. Davis was elected alternate to the meeting of the Medical Society of Virginia in Norfolk, Va., next October.

The local society voted to have its next meeting on the fourth Thursday in June, at the residence of Dr. Wade C. Payne Haymarket, Va.

The members of our society were much pleased to receive an invitation from Mrs. Katherine Bowman to have a meeting at her residence on Winchester Road, Warrenton, Va. This invitation was accepted by a hundred per cent vote. It was then planned to make the meeting at Mrs. Bowman's one of special interest.

It was moved by Dr. Richard Mason that this society invite ex-Senator James W. Wadsworth, of New York, to Warrenton, to speak on Prohibition and the Eighteenth Amendment. This was seconded by Dr. M. B. Hiden and was passed after much favorable discussion.

Following adjournment of the business meeting, an excellent supper was served.

J. R. ALLEN, *Secretary*.

M. B. HIDEN, *Asst. Secretary*.

The Northampton County Medical Society

Held a meeting on June 3rd, under the presidency of Dr. S. K. Ames, of Cape Charles, at which time, Dr. J. W. Bradshaw, Director of the Accomack-Northampton Medical Unit of the State Department of Health, read a paper on "Infant Mortality in Northampton County." At the business meeting which followed, Dr. Bradshaw was elected to honorary membership in the Society, and the following officers were elected for the ensuing year: President, Dr. H. L. Denoon; vice-president, Dr. W. T. Green, Jr., and secretary-treasurer, Dr. W. Carey Henderson. All of the officers are of Nassawadox. Drs. W. J. Sturgis, Nassawadox, and G. W. Holland, Eastville, were elected delegate and alternate, respectively, to the Norfolk meeting of the State Society. It was decided that the next meeting would be held July 2.

The Norfolk County Society

Held its annual meeting June 2nd, under the presidency of Dr. C. Lydon Harrell. Dr. Franklin D. Wilson, succeeded to the presidency; Dr. Harry L. Myers was elected vice-president, and Dr. Lockburn B. Scott was re-elected secretary-treasurer. The following were elected delegates to the Norfolk meeting of the State Society: Drs. C. Lydon Harrell, P. St. L. Moncure, Walter B. Martin, F. D. Wilson, Julian L. Rawls; alternates, Drs. N. G. Wilson, C. J. Andrews, Jas. H. Culpepper, W. P. McDowell, R. C. Whitehead.

At the last regular meeting of the Society until October, on June 23rd, there was a symposium on the Complications of Pregnancy. Those discussing the various phases of this subject were: Drs. Walter P. Adams, C. Lydon Harrell, Clayton W. Eley, James W. Anderson, F. C. Rinker, Bryant E. Harrell, and N. G. Wilson.

The Roanoke Academy of Medicine,

At its meeting on June the 2nd, selected the following delegates and alternates to represent the Academy at the meeting of the State Society in October: Delegates, Drs. T. J. Hughes, W. R. Whitman, and W. L. Powell; alternates, Drs. J. B. Nicholls, A. P. Jones, and Alvah Stone.

Dr. J. D. Willis is president of the Academy and Dr. Charles A. Young secretary.

Book Announcements

Clio Medica. A Series of Primers on the History of Medicine. **The Beginnings: Egypt and Assyria.** By WARREN R. DAWSON, F. R. S. E., Fellow of the Royal Society of Medicine, of the Society of Antiquaries of Scotland, and of the Royal Anthropological Institute of Great Britain and Ireland. Editor: E. B. KRUMBHAR, M. D. Paul B. Hoeber, Inc. New York. 1930. 12mo. of 86 pages. Cloth. Price, \$1.50.

Report on Fifth International Congress of Military Medicine and Pharmacy. London, England, May, 1929. By COMMANDER WILLIAM SEAMAN BAINBRIDGE, M. C. F., United States Naval Reserve. Member of Permanent Committee, Delegate from the United States. Composed, Printed and Bound by The Collegiate Press, George Banta Publishing Company. Menasha, Wis. Octavo of 154 pages. Cloth. Illustrated.

Transactions of the College of Physicians of Philadelphia. Third Series. Volume the Fifty-first. Philadelphia. Printed for the College. 1929. Octavo of 381 pages. Illustrated. Cloth.

The Truth About Medicine

In addition to the articles enumerated in our letter of April 25th, the following have been accepted: Eli Lilly & Co.

Ampoules Glucose (Dextrose, U. S. P.) Lilly 50 Gm., 100 c.c.

Parke, Davis & Co.

Parke, Davis & Company's Cod-Liver Oil with Viosterol 5 D.

Sandoz Chemical Works, Inc.

Scillaren.

Tablets Scillaren.

Solution Scillaren.

Scillaren-B

Ampoules Scillaren-B.

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Synephrin. — Hydroxyphenylmethylaminoethanol Hydrochloride.—The hydrochloride of an alkaloid obtained synthetically. Synephrin is used as a vasoconstrictor. It is less toxic than either epinephrine or ephedrine, and its vasoconstrictor action, while not so pronounced as that of epinephrine, endures for a longer time. In combination with procaine hydrochloride it is useful for local anesthesia in dental operations and in minor surgery in cases in which a bloodless area is not required. The drug is also supplied in the form of Synephrin Solution "A", Ampoules Synephrin-Procaine, 3 c.c. and Hypodermic Tablets Synephrin-Procaine. Frederick Stearns & Co., Detroit.

Mead's Dextri-Maltose with Vitamin B.—A mixture containing approximately: maltose, 52.58 per cent; dextrine, 39.80 per cent; protein, 4.34 per cent; mineral salts, 2.28 per cent; and moisture, 1.00 per cent. It is standardized physiologically to contain in each 2.5 Gm. the vitamin B₁ and B₂, equivalent of approximately 1 Gm. of dried yeast or 2 Gm. of wheat embryo. Mead's Dextri-Maltose with Vitamin B is proposed for use in the diet of infants suffering from Vitamin B deficiency. Mead Johnson & Co., Evansville, Ind. (Jour. A. M. A., May 3, 1930, p. 1405).

Scillaren.—A mixture of the natural glucosides, scillaren-A and scillaren-B, occurring in fresh squill *Urginea maritima*, in the proportions in which they exist in the fresh crude drug; namely, about 2 parts of scillaren-A to 1 part of scillaren-B. Completely dried scillaren contains approximately 98 per cent of the active glucosides. Scillaren dried in a high vacuum at 78 C. for fifteen hours loses not more than 6 per cent of its weight. The cardiac action of scillaren is essentially similar to that of digitalis; but this action is apparently less persistent than that of digitalis. Scillaren is administered orally and is supplied in the form of tablets containing 0.8 mg. (1/80 grain) of scillaren and in the form of a solution containing 0.8 mg. (1/80 grain) of scillaren. Sandoz Chemical Works, Inc., New York.

Ampoules Glucose (Dextrose, U. S. P.) Lilly, 50 Gm., 100 c.c.—Each ampoule contains dextrose, U. S. P. (New and Nonofficial Remedies, 1930, p. 245) 50 Gm.; distilled water to make 100 c.c.; accompanied by an ampule containing 4 c.c. of a buffer solution. Eli Lilly & Co., Indianapolis.

Parke, Davis & Company's Cod-Liver Oil with Viosterol 5 D.—A brand of cod-liver oil with viosterol 5 D.—N. N. R. (New and Nonofficial Remedies, 1930, p. 257). Parke, Davis & Co., Detroit. (Jour. A. M. A., May 31, 1930, p. 1761).

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AGNES V. EDWARDS,
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JULY

No. 4

Editorial

Liver Extracts and Blood Sugar.

The medical reader notes with keen attention the suggestive work that indicates the probability that liver contains a blood sugar reducing substance, as pointed out by the work of Blotner and Murphy,* at the Peter Bent Brigham Hospital. The probable fact that the patient may receive this agent by mouth and that it is non-toxic in action and that it acts on blood sugar concentration in like manner as does insulin makes this of importance in the treatment of diabetes. French workers have issued publications calling attention to the beneficial effect of liver feeding, having experimented with aqueous, alcoholic, glycerin and saline extracts of liver. The French view of this experimental inquiry seems to be that some cases of diabetic patients were benefited, some were not, and some were made worse. Those that were benefited appeared to be diabetics associated with functional insufficiency of the liver; those that were not helped or made worse were cases of glycosuria depending upon a hyperactivity of the liver.

Blotner and Murphy made observations on this subject after the following general procedure. They made blood sugar determinations in from three to eight hours, after a standard test meal of 20 gm. of carbohydrate, 40 gm. of protein, and 35 gm. of fat, red muscle meat being given as protein. The same control diet was used, under the same relations, with the addition of liver extract, allowing for the carbohydrate and protein content of the liver in making up the standard dietary.

Calf liver was used. This procedure was followed in twenty-three diabetics. The average decrease in the blood sugar, note the authors, eight hours after the control test meal, in eighteen out of nineteen diabetics, was 32.2 mg.; the average decrease eight hours following the test meal with addition of liver extracts was 79.8 mg.; the average decrease in the twelve diabetics that were given the test meal and 10 units of insulin subcutaneously was 67.9 mg. for the same period of time.

From the foregoing, one may see that there is probably an interesting relation here and that further studies may help the problems of certain diabetics.

Some Statistics in Gall Tract Surgery.

It is informing and interesting to note the experience and results obtained in a large number of cases treated. Statistical data collected from a wide experience enables one to form more trustworthy opinions in regard to the probabilities of success in a given method of treatment. Readers of current medical publications may find such an item of interest as related to surgical procedures on gall-bladder, bile ducts, liver and pancreas, in recent reports from the Mayo Clinic.* Here one notes that during 1929, there were performed 1,113 operations at this clinic for lesions of the gall-bladder and biliary passages. There were 771 operations of cholecystectomy during this year with a death rate of 1.4 per cent. Operations on gall-bladder and common and hepatic ducts for stones or strictures, numbering 984, resulted in a mortality of 2.8 per cent. In this group there were included cases of acute perforation and patients in late stages of debility with jaundice. There were twenty-nine cases of stricture of the common and hepatic ducts with twenty-four recoveries. The operative mortality of 955 cases was 2.2 per cent. It should be added that "all deaths in the hospital are classified as due to the operation."

Lymphatics of the Abdomen and Pelvis in Post-Operative Pleuropneumonia.

Not infrequently internists and physicians are called upon to observe the occurrence of chest complications that exhibit signs some days after abdominal and pelvic operations. Indeed after days following operation, in that period when surgical procedures begin to

*J. A. M. A., Vol. 94, No. 23, page 1811.

*Proceedings of the Staff Meeting of the Mayo Clinic, May 7, 1930.

eliminate themselves from the picture of the convalescing operative case, a chill, or sudden rise of temperature, or a sensation of pleural pain, disturbs the patient; the uneventful course of convalescence is changed; and a new train of septic symptoms harass the patient and attendants. Frequently, physical signs are difficult to elicit; no cough or difficult inspiration or expiration symptoms are observed; percussion and auscultation of the chest discloses little upon which to make a diagnosis; later more evident signs may be found; percussion and auscultation, in the course of days, discloses the lurking deep infection; pneumonia and empyema may easily be diagnosed later; later still, the patient may drag through weeks of complicating conditions of convalescence.

Notation of such experiences will suggest other possible combinations of complications following operations in the abdomen and pelvis that appear to be transmitted, later in the post-operative period, by lymphatics. In this connection, Higgins* has drawn attention to the lymphatic drainage from the diaphragmatic pleura into the peritoneal cavity. He injected material into the peritoneal space of animals and observed means of removal through lymphatic routes. He noted that one of the more effective organs in removal of foreign particles is the diaphragm, for within a few minutes after peritoneal injection, lymphatic channels on the pleural surface of the diaphragm were colored by injected particles. By this means, five principal lymphatic drainages were traced; three drain anteriorly, by the way of the sternum and the anterior and posterior mediastinum, emptying into the thoracic duct near its venous conjunction. Besides these, two groups of lymphatics pass posteriorly and divide, one draining into the retroperitoneal region back of the kidney and the other into the peritoneal sac and ultimately to the receptaculum chyli.

One has only to review in a most casual manner the illustrations of the lymphatic system in a work on anatomy to bring clearly to mind the rich network of these structures. One observes that lymphatics follow along the course of blood vessels. The lymphatics of the stomach, duodenum, jejuno-ileum and ileocecal and the large intestines serve as a means of possible channels of infection, and the com-

plicated lymphatics of the liver, so adjacent to the thoracic cavity and the diaphragm, may but increase the avenues of transmission of septic agents from the operative field below the diaphragm. It is interesting to observe here that anatomists† point out that there is an exceedingly rich plexus of lymphatic capillaries in the thoracic and in the abdominal surface of the diaphragm, especially in the region of the central tendon.

Lymphatics of the Stomach and Carcinoma of the Stomach.

Horton* points out in a publication the striking fact that carcinoma of the stomach rarely invades the duodenum. While it spreads readily in all directions in the wall of the stomach and even to the pyloric ring, carcinoma appears to stop here abruptly. After giving expression to various theories and after presenting a paper of experimental procedures touching on this question, the opinion is given that there is a discontinuity between the submucous lymphatics of the stomach and the duodenum. This is explained by Horton in the condition that there is a connective tissue septum on the pylorus which separates the submucosa of the stomach and the duodenum and besides separates the circular musculature of the stomach from the corresponding circular coat in the duodenum, thus making a double barrier to lymphatic connection.

In the examination of thirty-five specimens by injection with India ink and with India ink gelatin mixtures, there was not demonstrated any continuity between the submucous lymphatics of the stomach and those of the duodenum.

The drainage of the stomach was shown to be by four distinct areas; the largest drained by lymph nodes along lesser curvature; the second along greater curvature; the third drains toward splenic group of nodes; and the fourth drains distal portion of the pars pylorica toward nodes above pancreas.

Balfour in discussing lymphatics of the stomach and duodenum emphasizes importance of surgical phases of this question in operation upon patients with carcinoma of the stomach. He points out that one of the commonest errors made in surgery of the stomach is to mistake large infected lymph nodes in cases of cancer for carcinomatous nodes. For some patients, he points out, suffering from

†Morris—Human Anatomy—Jackson, 8th Edition.

*Proceedings of Staff Meetings of the Mayo Clinic, December 28, 1927.

*Higgins, Proceedings of Staff Meeting of the Mayo Clinic, August 14, 1929.

small operable cancers of the stomach have been denied the chance of a cure because inflammatory changes in the nodes were attributed to malignant invasion.

An Appreciation.

It would seem to be a work of supererogation for the editor to express for the members of the Society the sense of appreciation that everyone feels over the enthusiastic and effective work that is being done for doctors in Virginia by the Department of Clinical Education. It would seem to be useless to say here in writing what everyone feels, to give expression to an appreciation of unselfish work and laborious duties discharged by Dr. J. A. Hodges during the past months as he has striven to bring to the working and practical physicians in the field a revival of interest in and a review of clinical diseases.

Knowing full well that it is only by constant reading and review and practice in the clinical side of medicine that medical men can be kept "on their toes," this Department, under Dr. Hodges' inspiration and daily assistance, has done a good part during the past months in giving clinics and in fostering programs at medical meetings throughout the State. It is a self-sufficient and small man who says to himself, "I need no freshening up." Medicine moves along and progress is made, and even old facts, old truths, and old knowledge acquired in other days fade away and mental alertness and judgments lose out unless active and renewed efforts are made to review the diseases and their treatment, time upon time. Even men who follow the specialty of teaching medicine and become through the year schoolmasters, so to speak, in the faculties of medical schools, find that unless they keep abreast of the times their rating falls. While one may have been most excellent in school-days and may have acquitted one's self as a leader in class work in college, ere the decade has past and he has withdrawn himself into some small section of medicine as a teacher, he finds that with the other branches of medicine, he becomes less and less familiar, and it is probable that at the end of the first decade he could not pass successfully an examination that his comrades are placing on the blackboard for the students whereby they are to be judged as to their knowledge. If this is true of the school-teacher and professor in medicine who represents the student-

type of mind in medicine, it is much more true of the working physician in the active field of practice.

So it becomes self-evident that constant reviewing and studying of medicine in clinics, demonstrations, meetings, discussions and lectures is needed among medical practitioners through all stages of their career, and a medical society that undertakes to carry and forward a plan of teaching the practitioners at their work is performing a high service to its members.

It may be said the unselfish work of the organizer and fosterer of this mission in Virginia, as shown in the services of Dr. J. Allison Hodges, deserves and receives the keen appreciation of the profession of this State.

News Notes

History of Medicine in Virginia

The first Volume of the History of Medicine in Virginia, prepared under the auspices of the Medical Society of Virginia, by its Committee on History of Medicine in Virginia, with Dr. Wyndham B. Blanton as chairman, is ready.

Send your order NOW. Announcement in regard to this appears on fourth cover advertising page. ✓

The University of Virginia, Department of Medicine, Finals

Were held June 8 to 10, inclusive, in connection with the graduating exercises of the various departments of the University. In addition to the numerous dances and the final ball, the exercises included the baccalaureate sermon on the 8th, by Dr. James I. Vance, of Louisville, Ky. That afternoon, there was an organ recital in the McIntire Amphitheatre, by Prof. H. R. Pratt.

Monday, the 9th, was the date of the annual meeting of the Alumni Association, as also of the business session of the rector and the board of visitors. Both bodies adjourned at noon to attend the brief exercises in Madison Hall auditorium, incident to the presentation to the University of a bust of President E. A. Alderman. This was the gift of Mr. Charles Steele, an alumnus of New York. Following this, the alumni luncheon to graduates was served in the Memorial Gymnasium. On this occasion, Dr. David B. Lyman, Wallingford, Conn., welcomed the graduates into the

Alumni Association. From 5 to 6 P. M., President and Mrs. Alderman were "at home" to the faculty, board, alumni and graduates, at their home, on Carr's Hill.

Dr. Dumas Malone, former professor of history in the University, addressed the Phi Beta Kappa Society in Madison Hall, on Monday evening, the 9th, following which the final ball was held. Medical alumni initiates into the Society are: Drs. Willis Campbell, Memphis, Tenn., and Alfred L. Gray, Richmond, Va. Initiates from the medical graduates are: Drs. Eugene Beverly Ferris, Jr., Jackson, Miss.; William Hamilton Roper, University, and Robert Lomax Wells, Virginia Beach.

Class exercises were held on the lawn of the University on Tuesday, the 10th, and the degrees were conferred upon more than 400 graduates at exercises held that afternoon. There were fifty-seven graduates in medicine. Following is a list of their names with hospital appointments:

University of Virginia Hospital, University, Va.: Drs. William Miller Gammon, Bristol; Paul Kells, Wilmington, N. C.; James Peter King, Radford; Archibald Alexander Little, Jr., Meridian, Miss.; Alexander Taylor Mayo, Portsmouth; Frederick McCulloch Morrison, Lynchburg; John Ryan Myers, Lynchburg; Benjamin Watkins Rawles, Jr., Richmond; Alfred Chambers Ray, Jr., Ashland, and James Edwin Wissler, University.

Department of Pharmacology, University of Virginia, University, Va.: Dr. Dorothy Dillard Brame, North Wilkesboro, N. C.

Department of Biochemistry, University of Virginia, University, Va.: Dr. Eugene Beverly Ferris, Jr., Jackson, Miss.

Worcester City Hospital, Worcester, Mass.: Dr. Walter Johnson Allegree, University.

Church Home and Infirmary, Baltimore, Md.: Drs. Henry Reid Bourne, Wytheville, and Claude Brackett Smith, Wardensville, W. Va.

Wesley Memorial Hospital, Chicago, Ill.: Dr. Manfred Call, III, Richmond.

St. Luke's Hospital, New York, N. Y.: Drs. Hill Carter, III, Ashland, and Robert Lomax Wells, Virginia Beach.

Nassau Hospital, Mineola, N. Y.: Dr. Joseph Paul Coco, Ozone Park, L. I., N. Y.

Virginia Mason Clinic, Seattle, Wash.: Drs.

Joel LeRoy Deuterman, Ballston; Harold Hiques McLemore, Norton, and Beverly Kennon Peter, Harrisonburg.

Union Memorial Hospital, Baltimore, Md.: Drs. John Randolph Eggleston, Sewanee, Tenn., and Richard Franklin Slaughter, Jr., Hampton.

Orange Memorial Hospital, Orange, N. J.: Dr. Ernest Scott Elliott, Independence.

St. Elizabeth's Hospital, Richmond, Va.: Dr. Joseph Helms Farrow, Roanoke.

Bellevue Hospital, New York, N. Y.: Drs. George Tayloe Gwathmey, Jr., University, and Bergliet Stromsoe, Hempstead Gardens, L. I., N. Y.

Baltimore City Hospital, Baltimore, Md.: Dr. Paul Swanson Hill, Wise.

Englewood Hospital, Englewood, N. J.: Dr. Charles Keppler, Jr., Rosemont, N. Y.

Scott and White Hospital, Temple, Tex.: Dr. Southgate Leigh, Jr., Norfolk.

U. S. Navy Hospital: Drs. Thomas Lee Allman, Glade Hill, and James Edward Amiss, Luray.

U. S. Public Health Service: Drs. William Andrew Brumfield, Jr., Farmville, and Robert Barrett Skinner, Petersburg.

Post-Graduate Hospital, New York, N. Y.: Drs. Robert Edwin Odom, Norfolk, and Alfred Wayland Pinkerton Bayonne, N. J.

Lakeside Hospital, Cleveland, Ohio: Drs. Edward Stewart Orgain, Richmond, and William Hamilton Roper, University.

Barnes Hospital, St. Louis, Mo.: Dr. Wilmer Howard Paine, Jr., Knoxville, Tenn.

Charleston General Hospital, Charleston, W. Va.: Dr. John Claiborne Palmer, Guinea.

T. C. & I. Hospital, Birmingham, Ala.: Dr. John Day Peake, Rocky Mount.

Charity Hospital, New Orleans, La.: Drs. Prosser Harrison Picot, Richmond, and William Langley Sibley, Birmingham, Ala.

Lankenau Hospital, Philadelphia, Pa.: Dr. Daniel Brown Pierson, Jr., Narberth, Pa.

Massachusetts General Hospital, Boston, Mass.: Dr. Morton Morris Pinckney, Richmond.

Iowa Methodist Hospital, Des Moines, Ia.: Dr. William Orgain Purdy, Brodnax.

University of Pennsylvania Hospital, Philadelphia, Pa.: Dr. Paul Houston Revercomb, Covington.

U. S. Army Hospital: Drs. Charles Wil-

ham Rodgers, Staunton and Achilles Lacy Tynes, Staunton.

Memorial Hospital, Richmond, Va.: Dr. Lewis Benjamin Sheppard, Glen Allen.

Bell Memorial Hospital, Kansas City, Kans.: Dr. Emory Lee Shiflett, Elkton.

Baroness Erlanger Hospital, Chattanooga, Tenn.: Dr. Oliver Leon Von Canon, Chattanooga, Tenn.

Iowa State University Hospital, Iowa City, Ia.: Dr. Allan Elliott Walker, Jr., Washington, D. C.

Roanoke City Hospital, Roanoke, Va.: Dr. Thomas Leonard Watson, Jr., University.

St. Joseph's Hospital, Paterson, N. J.: Dr. Richard Elwy White, Glen Rock, N. J.

Vanderbilt University Hospital, Nashville, Tenn.: Dr. William Chalmers Wills, Lynchburg.

Since commencement, a number of fellowships have been announced for the year 1930-1931. These include Dr. Antonio Gentile, of Suffolk, recently of University Hospital, in surgery, and Dr. James Peter King, Radford, in neurology.

Resolutions Governing Program for Norfolk Meeting of State Society.

1. That at the next meeting the report of the House of Delegates be made at noon on Thursday, October 23, after which the meeting shall adjourn finally to an oyster roast;

2. That the clinics to be given on Tuesday afternoon, October 21, be divided into three (3) groups, conducted simultaneously, at different locations, and that notice of the place and time of the clinics be published in the "Monthly" in advance for the information of members;

3. That notices be sent to members, inviting them to submit titles of "voluntary" papers to be placed on the program, but that no paper be accepted unless the title with an abstract of the paper of 150 to 200 words, be sent to the Secretary by September 1;

4. That if the number of titles, with abstracts submitted, be in excess of the number necessary to make up a program, such additional titles of papers appear in the program to be read by title.

The above resolutions, governing the program for the next meeting of our State Society in Norfolk, were adopted unanimously at a joint meeting of the committees on Publication and Program and on Scientific Work and Clinics, held on April 25th.

Letters were sent all members of the State Society, the latter part of June, calling attention to the adopted policy with regard to the Program and asking for papers. Members desiring to present papers at the Norfolk meeting are requested to send in their titles with abstracts by the designated time, as there will be no other letters sent out with regard to the program.

The Mid-Tidewater Medical Society

Will hold its regular quarterly meeting on July 22—the fourth Tuesday in July—at Millers' Tavern, on the Tappahannock Highway. Dr. Horace Hoskins, Saluda, is president, and Dr. Malcolm H. Harris, West Point, secretary. Drs. A. I. Dodson and H. Page Mauck, both of Richmond, will be the speakers at this meeting, their subjects being "Treatment of Gonorrhea by the General Practitioner" and "Treatment of Common Fractures by the General Practitioner," respectively.

Dr. B. M. Randolph,

For a number of years a practicing physician of Washington, D. C., and Professor of Clinical Medicine at George Washington University Medical School, is returning to Virginia, this month, and will be located in Charlottesville, Va.

Married.

Dr. Haddon Christopher Alexander, Farmville, Va., and Miss Judith Harris Watson, Richmond, June 18.

Dr. Samuel Armistead Anderson, Jr., Richmond, and Miss Frances Webster, of Boston, Mass., June 16.

Dr. Philemon Hawkins Neal, New York City, and Miss Virginia Elizabeth Thornton, Richmond, Va., June 14. Dr. Neal, formerly of South Boston, Va., graduated from the Medical College of Virginia several years ago, and was located for a time at Catawba Sanatorium, Va., before going to New York.

Dr. Reuben Foster Simms, of the class of '28, Medical College of Virginia, and Miss Annie Sue Pearsall, both of Richmond, June 14.

Dr. Early Thomas Terrell, Jr., Williamsburg, Va., and Miss Eugenia Jackson Beazley, Beaver Dam, Va., June 18. Dr. Terrell graduated from Medical College of Virginia in 1929, and has since been connected with the

staff of the Eastern State Hospital in Williamsburg.

Teaching Health Through the School Lunch.

The luncheons which the pupils buy from the school lunchrooms are being checked in certain schools, and the children who have selected a well-balanced lunch are given "A" cards. Tickets explaining the deficiencies are given to those whose lunches are not well-balanced. This method has resulted in a marked increase in the consumption of milk and in the interest shown by the mothers. This scheme for making the school lunch an integral part of the health curriculum is being worked out for the National Dairy Council by Dr. Lydia J. Roberts, of the University of Chicago. When the study is completed the plan and lessons will be available for schools throughout the country.

Dr. Wallace M. Yater,

Washington, D. C., has taken charge of the chair of medicine at Georgetown University School of Medicine, having succeeded the late Dr. Wilfred M. Barton.

Dr. Charles P. Cake,

Norfolk, Va., has for several months been senior resident physician in the Tuberculosis Division of the Herman Kiefer Hospital, Detroit, Mich. He expects to return to Virginia upon completion of his work there.

The Association of American Physicians,

At its meeting in May, decided to hold its next annual meeting at Atlantic City, N. J., May 5 and 6, 1931. Dr. Rufus I. Cole, New York, was installed as president. Dr. Thomas B. Fletcher, Baltimore, was elected president-elect, and Dr. James H. Means, Boston, was re-elected secretary.

Dr. Charles S. Groseclose,

Formerly of Ivanhoe, Va., and a graduate in medicine from the University of Virginia in 1929, has just located at Buena Vista, Va., after completing an internship at Jefferson Hospital, Roanoke, Va.

New Hospital at Reidsville, N. C.

The Annie Penn Memorial Hospital was formally dedicated in June at Reidsville, N. C. It is completely equipped with all modern conveniences and has fifty beds and six bassinets. It will be open to both whites and negroes.

Work of National Leprosarium During Past Fiscal Year.

A report recently submitted indicates that

during the last fiscal year at the National Home for Lepers, maintained by the Public Health Service, at Carville, La., forty-nine new patients were admitted. There was an average of slightly more than 300 patients in the institution during the year. Nineteen patients were released as no longer a menace to the public health; six additional patients complied with the requirements for parole, but owing to their deformities and disfigurements which could not be cured, these patients elected to remain in the hospital. The nativity of the various patients of the leprosarium indicates that Louisiana and Florida had the largest number of any of the States.

Chaulmoogra oil, by mouth, was used as routine treatment in 137 patients, the dosage ranging from nine to 375 drops daily. One hundred and eighty patients are taking hypodermic injections of a special derivative of chaulmoogra oil. Dental work has continued as necessary. Supplementary treatment by means of physiotherapy and special light treatments are also given.

Value of Milk to School Children, Scotland.

Twenty thousand school children of Lanarkshire, Scotland, are to be included in an investigation of the value of an additional daily milk ration. Ten thousand are to receive the milk, and 10,000 will not receive it. All the children will be weighed and measured so that comparison between the two groups will be possible. A recent similar experiment on a small scale showed marked improvement in children of all school ages who received the additional milk.

University of Virginia Medical News.

Dr. C. E. Waller, Surgeon in the U. S. Public Health Service, visited the Medical School on May 15th.

Dr. John H. Neff, Professor of Urology, attended the meetings of the Association of American Genito-Urinary Surgeons at French Lick, Indiana, on May 22. He read a paper on "Enucleable Multilocular Abscess (Carbuncle) of the Kidney." On June 10th Dr. Neff attended the meetings of the American Urological Association in New York City.

Dr. James Edwin Wood, Associate Professor of Internal Medicine, spoke on "Blood Pressure Changes in Hypertensions" before the Mecklenburg County Medical Society, meeting in Charlotte, N. C., on May 19th.

At the Final Exercises on June 10th the

University graduated fifty-seven students with the degree of Doctor of medicine.

Dr. C. F. Hegner, Associate Professor of Surgery in the Medical School of the University of Colorado, made a brief visit here on May 31st.

Dr. Barney Brooks, Professor of Surgery in the Medical School of Vanderbilt University, visited our School on June 4th.

Dr. Willis C. Campbell ('04), Professor of Orthopedic Surgery in the Medical School of the University of Tennessee, came here on June 16th for initiation into the University Chapter of Phi Beta Kappa.

Dr. J. Normant Baker ('98), Health Commissioner of Alabama, visited the Medical School on June 16th.

Dr. Allen Voshell, Associate Professor of Orthopedic Surgery, attended the meetings of the American Orthopedic Association at Boston from June 18th to 20th.

Dr. Lawrence T. Royster, Professor of Pediatrics at the meeting of the American Medical Association in Detroit on June 24th. As President of the Association of American Teachers of Diseases of Children he gave also an address on "Some Pediatric Problems."

Dr. Vincent W. Archer, Associate Professor of Roentgenology, read a paper on "Roentgen Diagnosis of Ascariasis" at the meeting of the American Medical Association in Detroit.

Dr. Dudley C. Smith, Associate Professor of Dermatology and Syphilology, was elected to membership in the American Dermatological Association at the annual meeting on June 19th in Cleveland.

H. E. J.

Denver Studies Causes of Its High Infant Mortality.

An infant death rate in the salubrious city of Denver of ninety-one out of every 1,000 live births in 1928, while the rate for the birth-registration area of the United States during the same year was only sixty-eight, has aroused the city. With a grant from the Laura Spelman Rockefeller Memorial Fund and local gifts, the University of Denver has undertaken an investigation of the causes of infant mortality in the city. The director of the Denver public-health council reports that during the first two months of the present year there was a substantial decrease in the rate.

Dr. J. C. Anderson,

Chatham, Va., and his son, Edward, were both seriously injured early in June, when the

car in which they were riding left the highway and overturned. A late announcement is to the effect that Dr. Anderson is much improved.

The George Washington University Medical Society,

Washington, D. C., at its annual meeting in May, under the presidency of Dr. D. L. Borden, elected Dr. Wm. Thornwall Davis as president for the 1930-1931 session. Dr. Albert P. Tibbets was elected vice-president; Dr. W. Raymond Thomas, treasurer, and Dr. Henry L. Colvin, secretary.

How Worth While Is It To Fight Diphtheria?

In New York City during the first three months of the present year both the number of cases of diphtheria and the number of deaths from the disease was cut to less than half, as compared with the average number recorded for the corresponding months during the last six years. This reduction has followed the intensive campaign carried on by the city department of health during 1929, in which more than 200,000 children were given diphtheria toxin-antitoxin treatments. Not one of the 137 deaths occurring during the last six months of 1929 had received the complete series of treatments and the Schick test to determine immunity.

News From Medical College of Virginia.

Dr. Isaac A. Bigger, associate professor of surgery at Vanderbilt University, has accepted the professorship of surgery at the Medical College of Virginia, Richmond, beginning August 15, 1930. Dr. Bigger was assistant professor of surgery in the University of Virginia, Department of Medicine, before going to Vanderbilt.

Dr. George E. Vincent, lately president of the Rockefeller Foundation, was the speaker at the ninety-second commencement exercises of the Medical College of Virginia, Richmond. This year there were 196 graduates, ninety-five in medicine, twenty-three in dentistry, thirty-six in pharmacy, and forty-two in nursing. A report on these exercises appeared in the June issue of the MONTHLY.

Dr. Joseph Lyon Miller, Thomas, W. Va., was awarded the honorary degree of doctor of letters by the Medical College of Virginia, Richmond, at the commencement exercises, on June 3, 1930. Doctor Miller is an alumnus of the college of 1900 and is distinguished as

a medical historian, bibliophile, and collector of rare medical books.

The Medical College of Virginia, Richmond, has just received a grant of \$120,000, \$40,000 from the Julius Rosenwald Fund and \$80,000 from the General Education Board, for the construction of a dormitory and educational unit for the school of nursing of the St. Philip Hospital. This is an institution for negroes, owned and operated by the college.

Dr. C. P. Ryland,

Of the class of '29, Medical College of Virginia, after a year's internship at St. Vincent's Hospital, Norfolk, Va., has located in Buena Vista, Va., where he will be engaged in general practice.

The U. S. Civil Service Commission,

Washington, D. C., announces an open competitive examination for Associate Bacteriologist (Medical), applications for which must be on file with the Commission not later than July 30, 1930.

New Virginia Councilor.

Dr. Alfred L. Gray, Richmond, has been appointed Councilor of the Southern Medical Association from Virginia, the appointment having been made recently by the President of the Association, Dr. Hugh S. Cumming, Washington, D. C. Dr. Gray succeeds Dr. Lawrence T. Royster, University, whose term had expired.

Summer Clinics in Chicago.

The officers of the Chicago Medical Society, together with members of the staff of the Cook County Hospital, will hold their summer clinics at Cook County Hospital, Chicago, August 11-22. These clinics were held first in 1926 and the registration has included doctors from most of the States in the Union. There has been about fifty per cent come back of those who have attended courses at these clinics.

As the number of registrations has to be limited because of size of the amphitheatre, registration in advance is necessary. The fee for this purpose is ten dollars. Registration is open to all members of the American Medical Association and its component societies. Clinics will be held simultaneously in the medical and surgical amphitheatres. For further information and registration blanks, communicate with Chicago Medical Society Summer Clinics, 185 North Wabash Avenue, Chicago.

Beginning May 24th, the Society is publishing in its weekly *Bulletins* the pathological conferences conducted by Dr. R. H. Jaffee, at the Cook County Hospital. It is announced that these conferences are becoming as well known as those of the Massachusetts General Hospital, which are published each week in the *New England Medical Journal*. Information about these may also be obtained from above address.

Dr. Hal McCoy,

Crozet, Va., has announced that he is moving to Kahului, Maui, Hawaii.

Dr. and Mrs. F. H. Crawford

Have returned to their home at Mt. Sidney, Va., after a year spent in Vienna, Austria, where Dr. Crawford was taking post-graduate work in diseases of the eye, ear, nose and throat.

Dr. and Mrs. Wyndham B. Blanton,

Richmond, Va., sailed from New York, July the 2nd, on the *S. S. Providence*, bound for the Mediterranean. They expect to visit Lisbon, Athens, Egypt, Palestine and Italy, before their return the latter part of August.

The Medical Society of the District of Columbia,

At its annual meeting, held recently in Washington, elected the following officers for the year beginning July 1, 1930: President, Dr. William H. Hough; vice-presidents, Drs. Edward G. Seibert and A. Frances Foye, and secretary-treasurer, Dr. Coursen B. Conklin, re-elected.

Physical Condition of Working Boys.

Inflamed glands, nasal obstructions, malnutrition, pyorrhea, and decayed teeth were found in large numbers of the 2,700 working boys in the West Side Continuation School, New York City, during a recent examination by a department of health physician. One-fifth of them were underweight, and almost the same proportion had defective vision (corrected by glasses in a number of cases). To sum up, less than one in seven of the boys was found free from physical defects. The close conformity of these findings with those of a similar study made several years ago at the East Side Continuation School suggests that the situation reflects the conditions as they exist generally among New York City working boys.

Baby Clinic in Gloucester County.

Gloucester County, Virginia, held its first baby clinic at Hayes Store on June 13th. Through the gift of Mrs. J. Blair Spencer, the clinic was established there as a memorial to her mother, the late Mrs. H. V. Johnson, of Washington, D. C. Drs. H. A. Tabb, J. Blair Spencer, J. D. Clements, and J. W. Smith are among the local doctors who have pledged their services to the work of the clinic.

Dr. J. B. Graham,

Recently connected with the Pathological Laboratory of the University of Virginia, announces his removal to Bell Memorial Hospital, Kansas City, Kans.

The Medical and Chirurgical Faculty of Maryland

Held its annual meeting and celebration of the Centennial of its Library in Baltimore, the latter part of April, under the presidency of Dr. Henry M. Fitzshugh, of Westminster. The Centennial Exhibit held at this time was "assembled as an attempt to visualize the period in Baltimore at the time of the founding of the Library. To do this many things relative to members of the profession from the time of its founding" were secured. The handsome program of this meeting contained also a Catalog of the Exhibit.

Eye Clinics in Southampton County.

During the month of April, the State Department of Health conducted eye clinics in Southampton County, Virginia, and glasses were put on 120 indigent children, all badly in need of them. All of these children were backward with their school work on account of impaired vision. Although the Welfare Department of the County raised over \$700 for the clinics and hospitalization of a number of cases, great credit is also due the Virginia Commission for the Prevention of Blindness and to the staff of the Medical College of Virginia for holding the clinics. Drs. Emory Hill and R. H. Courtney of the College conducted the clinics.

The John Phillips Memorial Prize.

The American College of Physicians announces the John Phillips Memorial Prize of \$1,500.00, to be awarded for the most meritorious contribution in Internal Medicine and Sciences contributing thereto, under certain conditions named on page 202 of the June issue of the MONTHLY.

Contributions must be mailed on or before August 31, 1930, to the Executive Secretary of the American College of Physicians, Mr. E. R. Loveland, 133-135 S. 36th Street, Philadelphia, Pa.

Mental Hygiene in Argentina.

Argentina has recently evidenced recognition of the importance of mental hygiene by organizing a league of mental hygiene to study methods for the prevention of mental disorders and improvement in the treatment of mental patients. The league will work for the application of mental-hygiene principles in school, industrial establishments, and elsewhere, organize mental-hygiene conferences, and try to enlist the cooperation of the public authorities.

The South Carolina State Medical Association,

At its annual meeting in the late Spring, installed Dr. Kenneth M. Lynch, of Charleston, as president and made Dr. Charles A. Mobley, of Orangeburg, president-elect. Dr. Edgar A. Hines, Seneca, was re-elected secretary. Greenville was selected as the 1931 place of meeting.

Dr. E. C. Joyner,

Of the class of '28, Medical College of Virginia, after two years at the North Carolina Baptist Hospital, Winston-Salem, N. C., is for a time at his former home in Suffolk, Va.

Dr. S. G. Miller

Has returned to Virginia, after a year at the Chesapeake and Ohio Hospital, Huntington, W. Va., and is now located at Warm Springs, Va.

Dr. L. C. Haynes,

Mt. Jackson, Va., is home again after a visit to Seattle, Wash. On his return trip, he stopped for some time at the Mayo Clinic, Rochester, Minn.

National Tuberculosis Association.

At the annual meeting of this Association, in Memphis, Tenn., in May, Dr. Henry Boswell, Jr., of Sanatorium, Miss., was elected president; Dr. Stuart Pritchard, Battle Creek, Mich., and Dr. James A. Price, Oakville, Tenn., vice-presidents, and Dr. Charles J. Hatfield, Cincinnati, and Henry B. Platt, New York, were re-elected secretary and treasurer, respectively. The next meeting is to be held in Syracuse, N. Y.

Dr. E. B. Miller,

Elkton, Va., was among those who attended the Shriners' convention, held in Toronto, Canada, recently.

The West Virginia State Medical Association

Held its annual meeting at White Sulphur Springs, W. Va., the latter part of May, under the presidency of Dr. Walter E. Vest, of Huntington. This meeting was well attended, there was an excellent program, and good weather added to the success of the occasion. Clarksburg was selected as the 1931 place of meeting. Dr. C. H. Maxwell, Morgantown, newly elected president, will take office January 1, 1931. Drs. A. H. Hoge, Bluefield, and H. L. Goodman, Ronceverte, were elected vice-presidents. Dr. T. M. Barber, Charleston, and Mr. Joe W. Savage, Charleston, were re-elected treasurer and executive secretary, respectively.

At this meeting the West Virginia Association amended its Constitution so as to include two councilors-at-large, these to be the retiring president and his immediate predecessor. The retiring president is to be chairman of the Council. All councilors are elected for a term of two years each.

Dr. Greer Baughman,

Richmond, Va., has just been unanimously re-elected president of the Richmond Council of Social Agencies for the coming year.

Drs. W. Brownley Foster and Fred J. Wampler were elected members of the executive committee.

"First Aid Service in Small Industrial Plants"

Is name of a booklet which has just been published by the Policyholders Service Bureau of the Metropolitan Life Insurance Company, 1 Madison Avenue, New York City. This publication is one of a series issued by the Industrial Hygiene service of the Bureau dealing with the health of industrial and commercial workers. Those interested may secure copies by applying to the above given address.

The Alumni Association of the Medical College of Virginia,

At its annual meeting during commencement exercises of the College, the last of May, elected the following officers for the ensuing year: President, Dr. Walter E. Vest, Huntington, W. Va.; vice-presidents, Dr. W. H. Street, Richmond; Dr. Joseph D. Collins,

Portsmouth; Mr. Lewis E. Jarrett, Richmond; Mrs. Birdie W. Bush, Richmond; secretary, Dr. Charles L. Outland, Richmond; treasurer, Dr. F. H. Beadles, Richmond.

The Association was honored this year by the presence of Dr. George T. Snead, of Pungo, Princess Anne County, Virginia, who graduated from the College in 1880. As the oldest alumnus present, he was presented a loving cup by the Association at its annual dinner at the Commonwealth Club, Richmond, on the evening of June the 2nd. There were 350 present at this dinner.

Doctors on City School Board.

Drs. Ramon D. Garcin, Roshier W. Miller, and Clifton M. Miller are three of the members of the Richmond City School Board, as elected by the City Council at its meeting June 2nd, for a term of two years. All three were re-elected.

Dr. James S. Chalmers,

Formerly of Appalachia, Va., is now located at Sand Springs, Okla. Dr. Chalmers has leased and re-opened the Home Hospital in that place where he is engaged in industrial surgery. This hospital is a 40-bed modern hospital for general work in a large industrial center and is open to all members of the Tulsa County, Okla., Medical Society.

Dr. Robert Lemmon,

For some years of Lynchburg, Va., has been appointed post surgeon at the Virginia Military Institute, Lexington, Va., effective September 1st, to succeed the late Dr. R. Bruce James. Dr. Lemmon graduated in Medicine from the University of Virginia in 1902 and was connected with the medical service of the U. S. Army for eight years.

Dr. William A. Graham,

Of the class of '29, Medical College of Virginia, formerly of Hillsboro, Ky., has located at Kilmarnock, Va., for the general practice of medicine. During the past year, Dr. Graham has been connected with the Hospital Division of the Medical College of Virginia.

Southern Pediatric Seminar.

The tenth session of the Seminar will be held at Saluda, N. C., in the Land of the Sky, July 28th to August 9th. A group of Southern pediatricists, interested in the advancement of their specialty, have volunteered their services to create a teaching center at which may be presented the latest developments in this im-

portant branch of the practice of medicine. There is a registration fee of \$25.00 for incidental expenses of the Seminar. All lecturers and instructors are serving not only without compensation, but at their own expense. Dr. William A. Mulherin, Augusta, Ga., is dean, and Dr. D. Lesesne Smith, Saluda, N. C., registrar. Dr. Lawrence T. Royster, University, Va., is one of the lecturers. For information as to accommodations, address the Registrar.

Dr. and Mrs. Tom A. Williams,

Formerly of Washington, D. C., but more recently of Miami Beach, Fla., have taken a residence in Washington for the summer and will remain there until October.

World's Record on Dental Correction.

Southampton County, Virginia, boasts of being the first county in the world with 100 per cent dental correction complete in its white schools, while only two cities, Athens, Ga., and Jackson, Miss., have reached this goal. Early in 1930, the County School Board offered a day's holiday to the school securing 100 per cent dental correction. The last school in the county enjoyed its holiday on May 23rd.

While the campaign was inaugurated primarily to secure dental correction in school children, it also emphasized the necessity of regular dental work and encouraged children to help themselves to get this service, as every parent or child was required to make some payment, if nothing more than a few eggs.

Credit for this work is due the State Board of Health for the services of two dentists, the superintendent of schools and his corps of teachers, and to Dr. B. B. Bagby, health officer.

New Hospital Completed at Fort George G. Meade.

Fort George G. Meade, Maryland, where several thousand men of the Regular Army, National Guard, Organized Reserve Corps, Citizens' Military Training Camps and Reserve Officers' Training Corps, will receive practical field training this summer, has a new hospital, according to announcement by Col. F. M. Hartsock, Medical Corps, Surgeon of the Third Corps Area. The building has just been completed, in time for the summer training activities, at a cost of \$243,233.00. It is of the Colonial type, in harmony with the type of new construction at Fort Meade, as provided for in the War Department Housing

program. Reinforced cement with pressed brick facing has been employed in the structure.

The hospital has accommodations for one hundred patients. It is sub-divided into four wards. There are private rooms, an operating room, an X-ray and pathological laboratory, a dental department, and a dormitory for the enlisted attendants. Medical service will be rendered by four doctors, one dentist, four registered nurses, and thirty-nine enlisted attendants, all members of the Army Medical Department.

Lt. Col. Howard H. Bailey, M. C., of the class of '97, University of Virginia, Department of Medicine, is post surgeon. Maj. Robert B. Shackelford, M. C., of the class of '09, University of Virginia, is one of the four doctors in charge.

Dr. Oscar L. Hite,

Of the class of '29, Medical College of Virginia, recently left for New York City, where he had received an appointment as resident on the service of gastro-enterology at the Lenox Hill Hospital, New York City, on the service of Dr. Max Einhorn, effective June 1st. Dr. Hite had just completed a year's residency at Tucker Sanatorium, Richmond, Va.

Dr. John A. Hardy,

Formerly of Lancaster County, Virginia, and a graduate of the former University College of Medicine, Richmond, Va., in '99, has been quite ill at the hospital in El Paso, Texas, where he has made his home for a number of years. His illness was caused by a finger which became infected while operating several weeks ago, the infection spreading to other parts of the body.

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Obituary Record

Dr. Robert Patton Kelly,

Prominent obstetrician of Lynchburg Va., died June 10th after an illness of several weeks. He was fifty-one years of age and a native of Pearisburg, Va. Dr. Kelly graduated from the former University College of Medicine, Richmond, in 1907, and engaged in general practice in Southwestern Virginia until he went to Lynchburg in 1914. At the time of his death, he was president of the Lynchburg-Campbell County Medical Society, a member of the American College of Surgeons, and had been a member of the Medical Society of Virginia since 1907. He was surgeon for the Norfolk and Western Railway and physician and member of the trustees of the Odd Fellows' Home. His wife and one son survive him.

Dr. James Richard Shacklette,

Well-known physician of Rockingham County, died suddenly from a stroke of apo-

plexy at his home in Harrisonburg, Va., on June 6th. He was a native of Morrisville, Fauquier County, Va., and was forty-seven years of age. Dr. Shacklette was a graduate of the former University College of Medicine, Richmond, in 1908, and began his practice in Warrenton in 1909. He later practiced in Albemarle County, and at Elkton, and moved to Harrisonburg in 1928. Dr. Shacklette had been a member of the Medical Society of Virginia since 1908. His wife and one daughter survive him.

Dr. David Thomas Gochenour,

Stuarts Draft, Va., died June 4th, of pneumonia. He was fifty years of age and a graduate of the George Washington University Medical School, Washington, D. C., in 1909. Dr. Gochenour was a member of the Medical Society of Virginia. His wife and three children survive him.

Dr. Benjamin W. Bohannon,

Mathews, Va., died April 27th, at the age of seventy-two. He was a graduate of the University of Maryland, School of Medicine, Baltimore, 1889. Dr. Bohannon was a member of the school committee of Mathews.

Col. Christopher Clark Collins, M. C.,

U. S. Army, died suddenly of heart disease, May 11th, at the home of relatives in Lynchburg, Va. He was fifty-eight years of age and graduated from the University of Virginia, Department of Medicine, in 1895. Dr. Collins was a member of the American College of Surgeons and a veteran of the Spanish-American and World Wars.

Dr. Samuel Conway Crow

Died April 11th, at his home in Norfolk, Va., of hypertrophic cirrhosis of the liver. He was a graduate of the University of Michigan Medical School, Ann Arbor, in 1898 and was fifty-five years of age. Dr. Crow served in the medical corps of the Army, during the World War.

Dr. Leslie B. Wiggs,

Lieutenant-Commander, U. S. Navy, retired, died at his home in Richmond, Va., on June 16th, after having been in ill health for some time. He was a native of North Carolina and was forty-nine years of age. Dr. Wiggs graduated from the Medical College of Virginia in 1907. He was one of the first medical officers from Richmond to go into the World War. His wife survives him.

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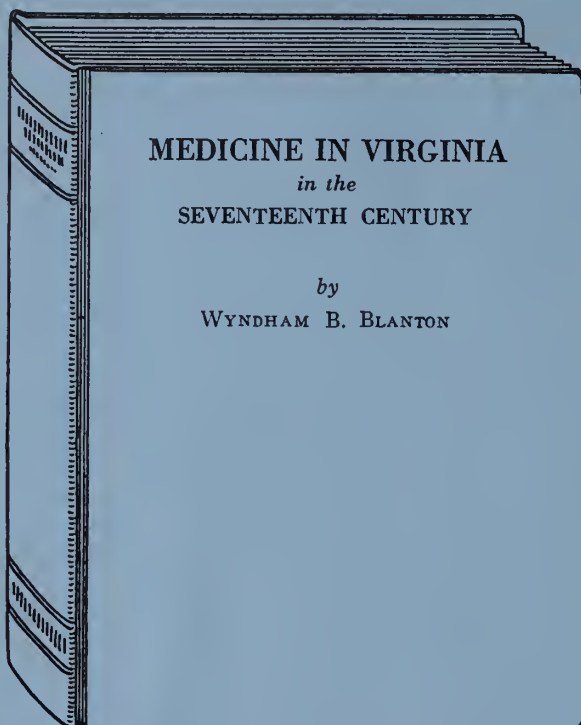
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BI-LATERAL URETERO-LITHIASIS WITH REPORT OF INTERESTING CASE.*

By STANLEY H. GRAVES, M. D., Norfolk, Va.

Bi-lateral uretero-lithiasis is one of the most interesting and perplexing subjects confronting the urologist of today. Especially so on account of the pathogenic interpretation, its serious prognosis, and the different therapeutic and operative problems met with in so many cases. Indeed, it can be said that bi-lateral uretero-lithiasis is a serious affection, but one that can be dealt with surgically with very gratifying results.

In looking through the records of the urological department of the Sarah Leigh Hospital, for the past nine years, I find that I have treated as follows:

Ureteral stricture 148

Ureteral calculus 99

Bi-lateral ureteral calculus..... 5

The general belief is that the greater portion, if not all, ureteral calculi have their origin in the kidney. Once the stone has entered the ureter it is quite likely that it will ultimately enter the bladder. The time required for a stone to pass through the whole length of the ureter will vary in individual cases from a few days to many months. As the delay in the passage down the ureter is increased, so is the likelihood diminished of a successful journey, for the stone is gradually increasing in size all the time.

In order that the common sites for retention of stone in the ureter may be more fully understood, it will be necessary to consider the normal points of narrowing and dilatation along the course of the ureter.

From above down these constricted areas, are the following situations: at the commencement of the ureter, where it crosses the pelvic brim, where it enters the bladder wall, and at the ureteric orifice. Behind each of these constrictions there is a dilatation which is a favorable locality for a stone to lie and develop.

From above down these expanded portions, are the renal pelvis, the ileolumbar spindle, and the pelvic spindle. Also there is a small dilatation in the bladder wall itself.

A stone in the ureter which cannot move on beyond a certain constriction does not necessarily remain fixed. The dilatation of the ureter resulting from the obstruction, in many cases, enables the stone to move freely up and down the ureter, and back to the point of obstruction, according to the action of gravity. This stone may traverse the entire length of the ureter, and even re-enter the kidney at times. The practical importance of this capacity a stone has for moving about lies in the fact that a calculus, which has previously been identified by X-ray in a lower part of the ureter, may be found to be absent from its location when sought at operation, especially if the patient is placed in the Trendelenberg position.

Bi-lateral calculi of the ureter, like that of the kidney, are more frequent in man than in woman, and the greatest number will be found between the ages of 30 and 40 years. There seems to be a slight difference of opinion as to the frequency, but Jeanbrow states that out of 220 cases examined, he found unilateral stone in 90 per cent and double in 3.6 per cent. The surface of these stones may be rough or smooth, and sometimes may have a groove or grooves along which the urine may trickle.

Ureteral calculi frequently have a resemblance in shape and size to coffee beans, olive, date or plum stones, and may ultimately reach the size and shape of a hen's egg. The ureter may be the seat of the stone for many years without giving rise to extreme renal atrophy and marked dilatation or infection. On the other hand, in those cases where the ureter has been the seat of an infected stone for a prolonged period, the changes in the kidney are more severe. There will be found an enlargement of all the calyces, the renal pelvis and collecting of tubules. Atrophy begins with

*Read before the Seaboard Medical Association of Virginia and North Carolina, in Newport News, Va., December 3-6, 1929.

a thickening of the renal cortex and flattening of the papillae. These changes may be so progressive that all excreting tissues ultimately disappear, and a mere fibrous shell remains.

The case I now wish to report is that of a female; white; age 43; married; three children, the youngest 13 years. Previous health has been fairly good. One week prior to coming to me she was taken very ill, suffering from pain in the abdomen and left side. She was removed to a hospital two days later, suffering from high temperature and chills; pus, blood and albumin were found in the urine. X-ray examination showed a shadow in the left lower ureter. Attempts were made to catheterize the ureter, but the catheter failed to pass the obstruction.

This patient entered the Sarah Leigh Hospital, March 9, 1929, very sick, suffering from nausea, vomiting, high temperature, and an occasional chill. Abdomen was slightly distended, with marked tenderness over the left kidney and down the ureter, with some rigidity of the muscles. An enlarged kidney could be palpated. Heart and lungs were negative. Hemoglobin 76 per cent, erythrocytes 4,570,000, leukocytes 19,200, small lymphocytes 6, large lymphocytes 2, polymorphonuclear neutrophils 92. The urine was dark amber, cloudy, acid, specific gravity 1.016, albumin, hyaline and granular casts, pus and blood were found. Her blood urea was 37.6 mgs. per 100 c.c. of blood. Blood sugar 165 mgs. per 100 c.c. of blood. Blood culture gave no growths. Malaria negative. Radiograph revealed a shadow $1\frac{1}{4}$ cm. long, 1 cm. wide, in the left lower ureter; and calculus in right kidney 1 cm. x 1 cm. which appeared to be lodged in the middle major calyx. *Cystoscopy*:—the right ureter was easily catheterized with a No. 5 catheter, and function appeared good. The left ureter could not be catheterized farther than 1 to $1\frac{1}{2}$ inches when obstruction was met. Every effort was made to pass this obstruction but failed.

Two days later another cystoscopy was done; No. 4 catheter was passed by the obstruction on the left side and about 16 c.c. of milky urine and pus was aspirated back. This catheter was left in the ureter for two days, when it was removed and a No. 5 was introduced and left in, a large quantity of dirty urine and pus evacuated around and through the catheter. Irrigations were carried on at

intervals through the catheter. Five and seven days later efforts were made to get larger dilators by the stone but without success.

On account of the continued serious illness of the patient, operation was decided upon. On March 26, 1929, I did a left ureterolithotomy. A low left rectus incision was made, the peritoneum stripped back, the ureter identified and traced downward, locating the stone just over the large vessels. The ureter was loosened and lifted from its bed. A three-quarter inch incision was made and a stone $1\frac{1}{4}$ cm. long by 1 cm. wide removed by small forceps. Here a No. 5 ureteral catheter was passed up the ureter and the lower end threaded into the bladder. The incision in the ureter was closed by three para-mucous catgut sutures. A counter opening was made in the lower flank and two cigarette drains inserted. The rectus incision was then closed without drain. The patient made a splendid recovery. The catheter, left in the bladder and ureter to insure drainage and prevent stricture, was removed on the tenth day through the cystoscopy.

Cystoscopy was performed during April and May, the ureter dilated and function was good. Urine contained an occasional blood cell and two plus pus. The patient was allowed to leave the hospital the day following the last cystoscopy but was warned as to the stone in the right kidney and advised that this should have attention as soon as she had regained her health and strength.

On August 6, 1929, she was re-admitted to the hospital, just a little over three months after leaving. When admitted she was quite sick, gave a history of severe pain in the right kidney, radiating down the ureter and into the right thigh. The first pain was ten days prior, steadily growing more intense, with fever, chills, nausea and vomiting.

When the patient was examined there was a high temperature with nausea, marked tenderness over the right kidney, pain over front of abdomen and thickening and enlargement in the kidney area. Blood examinations showed erythrocytes 4,400,000; leukocytes 18,900; small lymphocytes 13; polynuclear 87; blood urea 30 mgs. per 100 c.c. of blood; urine dark amber, cloudy, mildly acid, albumin, specific gravity 1.016, four plus pus.

The next day cystoscopy was done and a No. 5 catheter passed into the ureter for $1\frac{1}{2}$

inches, followed by a stream of pus. A No. 4 catheter was passed for about 4 inches and left in through the night. Shadowgraph indicated catheter against a stone in the lower ureter, but no stone in the kidney. A diagnosis of abscess of the right kidney with block of the ureter was made, and drainage of the kidney was determined.

The patient was taken to the operating room on the following day and a three-inch lumbar incision made. The kidney was exposed and found much enlarged and badly inflamed. The abscess was located with an aspirator. An incision large enough to admit the finger was made through the cortical substances, with the expulsion of a large quantity of dirty urine and pus. A soft rubber tube was inserted and the wound closed around the tube.

Convalescence was satisfactory, and on August 29th a right side uretero-lithotomy was performed, duplicating the procedure employed on the left side. The only difference encountered was a more inflamed ureter, dilated and full of pus. The stone was a shade smaller and more firmly imbedded than that found on the left. Ten days later the catheter in the ureter was withdrawn from the bladder and under vision of the cystoscope the ureter appeared to be functioning well. The patient improved rapidly and left for home one month from the time of the last operation. Since this time, the patient has returned twice for ureteral dilatation and kidney lavage. Function is good, there is still an occasional blood cell and two plus pus found in a catheterized specimen.

In considering the treatment of a calculus in the ureter, we have three alternatives. First, the stone may be left to pass by natural means. Second, its passage may be aided by trans-cystoscopic means. Third, removal by open operation.

In a good proportion of cases the patients solve their own problem by passing their stones unassisted. Kretsner notes that in 140 cases he found this to be the result in 26 per cent. This unaided passage is necessarily limited to calculi within certain dimensions. Stones with a transverse diameter of not more than 0.5 cm. are likely to be ultimately passed in this manner. Cases of this nature must be kept under frequent and regular supervision. Radiograms must be made and the patient is

to take moderate exercise, and drink large quantities of water.

When conservative measures have failed, the onward progress of the stone should be hurried by some intra-vesicle or ureteral manipulation. As a rule this should take the form of the passage of one or more catheters up the ureter and beyond the stone. This method is the one most likely of success. The catheter or catheters should be left in the ureter for two or three days, and here too you have provided for drainage of the kidney and dilatation of the ureter. When two catheters have been passed, they should be withdrawn together, as the stone is frequently found between them.

Stones do not always pass quickly, many days are often required, and it may be necessary to repeat manipulations several times. Surgeons, with a large experience of this type of treatment, show a high percentage of satisfactory results. Bugbee records 326 successes out of 347 cases, and Crowell 88 out of 98 cases.

There are several makes of ureteral dilators which are often of great help and assistance. The ureteric orifice will at times require slitting or fulguration to admit the passage of a stone through a constricted meatus.

Types requiring operation will largely depend upon your individual surgical judgment, and clinical findings. Such cases where trans-cystoscopic methods have been tried and have failed, will leave no alternative. Stones that will rarely yield to any other treatment than operative are calculi 2 cm. and above in diameter in any part of the ureter, most stones 1 cm. and over in diameter, and which are not in the lower third of the ureter, encysted and impacted stones as shown by repeated radiographs, and where the obstruction has completely blocked the ureter with a hydro-nephrosis and where the stone has set up a peri-ureteritis. Patients who react severely to cystoscopic manipulations, and where there is an acute infection with definite enlargement of the kidney or where there exists some disease of the lower urinary tract, should be submitted to open surgery.

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WHEN A WOMAN SHOULD HAVE A BABY. AND WHY.*

By LEWIS M. ALLEN, M. D., Winchester, Va.

The subject I have to bring before you is rather homely, but I have selected it for two reasons; first of all, because it is one that every general obstetrical practitioner may meet daily, and, secondly, because in talking about some of the things that I shall mention there seems to be considerable difference of opinion and misunderstanding.

All of us who know anything about obstetrics know that the period of pregnancy extends over varying lengths of time, though it generally is reckoned at two hundred and eighty days, ten lunar or nine calendar months, forty weeks. It has been known to extend anywhere up to three hundred and thirty days, or fifty days over the regular time. At any rate, regardless of the exact number of days over which pregnancy may extend, we certainly know that it may extend far beyond the two hundred and eighty days, or forty weeks.

We do not know the causes of labor. There are many theories, entirely too many for me to consider in ten minutes. Those that appeal to me most are the increased irritability of the uterus, and the over-distention of that organ. In multiple pregnancies and hydramnios, premature delivery is more apt to occur. If at the end of forty weeks the uterine contents should cease to develop and grow and

increase in size, etc., all would be well and good; but this is not the story. The body of the fetus not only increases in bulk, but the bony parts, especially the head, become more completely ossified and the sutures and fontanels almost disappear if allowed to go too far. So that most important process in the mechanism of labor, namely, the molding of the head and its compression because of the sutures and fontanels, is lost. There is no possibility of the head molding. The uterine contractions may be ever so hard, the resistance not so great in front, but that head will not mold. If the pelvic canal be sufficiently large to allow the head to pass through without any change, then it is all right, but very frequently it is not. By reason of the fact that women are allowed to go over term in these cases, there will result a number of dystocias,—a certain number of labors that will have to be terminated artificially; otherwise, there will be many serious consequences. In order that these may be prevented, it is my suggestion (and this is the message that I bring today, although nothing new, since it ought to be as old as obstetrics) that you adopt a method I have been practicing for many years, which is that these women should be followed closely during the latter weeks of pregnancy and examined carefully. I am not referring now to the kidneys or anything about the development of eclampsia but to palpating the abdomen to determine the size of the fetus in relation to the pelvic canal. When the fetus attains sufficient size to live externally, especially if the woman has had difficulty in delivery before, then induce labor promptly. Now, this does not mean in all cases nor in the majority of cases, but it means in a certain number, and I believe by doing this many difficult, long and tedious labors will be prevented.

We must not forget the dangers in this, the danger in estimating the size of the fetus. I have been asked how I know when the fetus has reached such size that it will live externally. I answer that by saying I do not know, but that by experience and by education of these fingers we can tell approximately, and recognize at least the very much oversized fetus in utero, and induce labor and prevent many of the troubles that might happen.

All of us who practice obstetrics have in the past heard women boast about the size of

*Informal talk before the annual meeting of the Medical Society of Virginia, held at Charlottesville, Va., October 22-24, 1929.

the babies they have given birth to, and I am sorry to say that I have heard doctors boast about the size of the babies they have delivered. I make this prophecy, that the time will come when, not only will a community be disgraced by the incidence of typhoid fever therein, but a doctor will not boast if he allows a woman to give birth to an enormously large baby, a baby of nine or ten or twelve pounds. But the fetus does grow rapidly in the uterus in the later stages, and it is necessary to watch women carefully during the latter part of pregnancy. By doing this, many difficult labors may be prevented.

CONSERVATIVE OBSTETRICS.*

By GREER BAUGHMAN, M. D., F. A. C. S., Richmond, Va.
Professor of Obstetrics, Medical College of Virginia; Obstetrician to The Memorial, St. Philip, and Stuart Circle Hospitals.

Conserve is defined in the new Oxford dictionary as to keep from destruction. I would define conservative obstetrics as that plan of procedure that allows nature to attend to the care of pregnancy or labor until one is persuaded that intervention is indicated in the interest of the mother's life or health or in the interest of the infant's life or health.

Conservatism is really a state of mind. If we are conservative thinkers we will be conservative actors. The doctor who is hyper conservative is often more dangerous in obstetrics than the wildest radical.

A doctor hardly has the right to classify himself as a conservative or a radical in obstetrics until he has had a large experience added on to a good theoretical knowledge of obstetrics. He may have the conservative or the radical state of mind but it requires a considerable experience with a great variety of cases before he can finally classify himself.

Obstetrics has been practiced in a conservative way for as far back as we have record. The taking of normal obstetrics from the hands of the midwife as we practice it here in America could hardly be regarded as radical. Elevating the delivery of women to a clean surgical procedure surrounded by prenatal care must still be called conservative. The use of anesthetics and other remedies for the relief of pain must be classified as conservative. The introduction of cutting of the perineum and the introduction of forceps in the interest of the baby, the use of the bag to intro-

duce labor, the constant resort to versions and extraction, the very frequent resort to Caesarean sections—might all be looked upon with suspicion as smacking of the radical.

All of these procedures have their place. We are willing to grant that fact without argument.

I venture the assertion that any of these procedures that are used as routine—without a clear indication in each and every case—is radical and dangerous. The danger lies unfortunately in adding opportunities for infection and in causing increased mortality as well as morbidity to babies and mothers.

We doctors are great faddists. The pendulum swings to the side of conservatism and then back to radicalism. The truth of the matter is that the wise doctor will take a middle ground and will take for his own use those procedures that are proven by statistics to be the best. He will finally select the procedures that will give him results and that he can do the best.

We, at Stuart Circle, regard ourselves as conservatives. We use gas and oxygen anesthesia with a free hand, particularly during the passage of the head through the cervix and over the perineum. The purpose is to shorten the second stage of labor and to keep the cervix from being torn.

Of the procedures that might be classified as radical because used rather constantly are episiotomies, particularly in the primiparae. The cutting of the perineum has prevented many a still birth. Episiotomy has shortened many a second stage and has given unrelaxed perineal to many women who would later have come to repair. We use forceps in the interest of the mother but particularly in the interest of the baby. We like Caesarean sections better than craniotomies. We bag our placenta previas and let the head follow the bag out instead of verting. We section our central placenta previas. We treat toxemias conservatively and do not start them into labor until they have improved or until they have shown that they are going from bad to worse. In our toxic cases we never allow them to go on to convulsions because we put them into labor with a bag. Once in a great while a case does slip by our guard and has a convulsion. We feel disgraced when this happens.

Among my own private cases but three have had convulsions. One of them had a blood

*Read before the annual meeting of the Medical Society of Virginia at Charlottesville, Va., October 22-24, 1929.

pressure reading and urinalysis made within twenty-four hours of the convulsion. Both urinalysis and blood pressure were normal.

We use forceps with a much freer hand than version, probably because we are better at forceps. I believe in the long run forceps do less damage to babies and mothers than versions. In doing forceps, we are carrying out nature's plan in that we are insisting upon a vertex delivery.

Craniotomies are almost without exception the end results of someone's error. We do many more craniotomies in the public clinic than in Stuart Circle.

While there are a great many factors that determine the trend of obstetrical opinion and practice, either in the direction of radicalism or conservatism, certainly the end results are important factors.

At Stuart Circle Hospital from 1920 until September 1, 1929, we delivered 2,473 women. Of that number, 2,036 are classified as normal, while 437 might be called abnormal. It might be more instructive to reduce the various factors studied from these groups to percentages. There were 82.3 per cent normal, and 17.7 abnormal. Bags were used 6.9 times in every hundred; high forceps 1.6 times; other forceps 11.1; versions .92; craniotomy .12; abdominal section 3.3.

There were 2.9 breech cases, premature babies 6.7. Probably the most interesting part of the statistics have to do with still-births and maternal deaths. There were 56 still-births, making a per cent of 2.26, while the maternal deaths were only 11, with a per cent of .445. Over a period of nine years, beginning in 1920 and ending with 1928, the State of Virginia had a still-birth incidence of 4.24, and the maternal death rate was .722 on the average.

Pasadena, Calif., in 1924, with 1,414 births, gave a still-birth record of 3 per cent, an abdominal section rate of 3.6, and a maternal death rate of .43. Dr. I. W. Potter reported, in 1920, upon 1,113 women personally delivered by him, and, of that number, 920 were delivered by version and extraction with an incidence of still-births of 3.6 per cent. The per cent of abdominal sections was 7.1, with .18 vaginal sections to be added.

I think that we are justified by our statistics in the continuation of the practice of conservative obstetrics.

STATISTICS IN OBSTETRICS FROM STUART CIRCLE HOSPITAL.

	Total Deliveries	Normal	Abnormal	Bags	High For.	Other For.	Breech	Version
1920	123	112	11	7	1	9	3	1
1921	171	162	9	17	5	18	1	0
1922	200	150	50	10	6	24	1	4
1923	224	145	79	9	7	27	6	3
1924	261	191	70	13	12	22	10	0
1925	241	216	25	11	4	18	14	2
1926	301	247	54	19	1	30	8	5
1927	307	276	31	30	2	5	12	6
1928	325	260	65	22	1	41	12	0
1929	320	277	43	19	2	42	7	1
to Sept.								
Total	2473	2036	437	157	41	276	74	22
Per cent		82.3	17.7	6.9	1.6	11.1	2.9	.92

STATE OF VIRGINIA

	Craniotomy	Caesarean Section	Premature Babies	Still Births	Maternal Deaths	Still Births	Maternal Deaths
1920	0	1	5	0	0	4.34	.85
1921	0	9	11	8	0	4.34	.69
1922	0	4	4	6	1	4.23	.71
1923	1	11	18	6	0	4.23	.73
1924	1	10	16	8	2	4.33	.64
1925	0	9	14	5	1	4.05	.69
1926	1	10	33	3	2	4.24	.80
1927	0	9	34	12	2	4.18	.61
1928	0	11	18	15	1	4.35	.78
1929	0	9	13	3	2		
to Sept.							
Total	3	83	166	56	11		
Per cent	.12	3.3	6.7	2.26	.445	4.34	.722

2473 CASES DELIVERED FROM JANUARY, 1920, TO SEPTEMBER, 1929.

Still Births	
Normal deliveries	4
Normal deliveries induced with Voorhees bag	1
Premature	11
Premature and pre-eclamptic	1
Premature and nephritic with abruptio placentae	1
Premature, one kidney and twins, No. 2 breech	1
Premature and breech	2
Premature and high forceps	1
High forceps	4
High forceps with twins	1
Midstrait forceps	3
Midstrait forceps with nephritis, convulsions, pyelitis	1
Low forceps	4
Low forceps with prolapsed cord	1
17	
14	

Breech	6
Breech with dry labor	1
Version and extraction	1
Version and extraction with twins.....	1
Version and extraction with eclampsia..	1
Caesarean section with eclampsia	1
Craniotomy	2
Craniotomy of after-coming head.....	1
Pre-eclampsia with prolonged labor	2
Eclampsia with convulsions	1
Nephritis with convulsions	1
Twin monsters	2
Total of still-born from 2473 cases at Stuart Circle Hospital	56
Total of babies that died within the first ten days after delivery	40
Per cent of babies still-born and dead in first ten days	3.87

STATISTICS OF THE OUT-PATIENT CLINIC OF MEDICAL COLLEGE OF VIRGINIA FROM 1910 TO 1920.

Total number of cases delivered	2,341
Maternal deaths .....	.81
Still-born	10.6
Babies that died in the first ten days after delivery	3.1
Total dead babies	13.7

MATERNAL DEATHS.

1922

No. 1280—Prolonged labor. Renal insufficiency. Caesarean section. Lived 7 days.

1924

No. 1601—Toxemia of pregnancy, late. Generally contracted funnel pelvis, border-line. Caesarean section. Lived 11 days.

No. 1614—Acute fulminating toxemia of pregnancy, late. Stroganoff's method and phlebotomy. Lived 2 days.

1925

No. 2500—Carcinoma of ovary with metastasis to lungs and liver. Caesarean section. Resection of the tubes. Lived 23 days.

1926

No. 1716—Eclampsia. Bilateral lobar pneumonia. Low forceps, episiotomy. Lived 4 days.

No. 2222—Eclampsia. Broncho-pneumonia. Induced labor. Still-born. Lived 12 days.

1927

No. 522—Eclampsia. Induced labor. Midstrait forceps. Still-born. Lived 1 day.

No. 2672—Generally contracted pelvis. In labor thirty-six hours before entering the hospital. Caesarian section. Peritonitis. Lived 6 days.

1928

No. 1193—Pre-eclampsia. Pulmonary embolus induced. Midstrait forceps. Died on the table.

1929

No. 211—Normal labor. Infected episiotomy. Lived 14 days.

No. 1793—Decompensated heart. Pulmonary edema. Low forceps. Still-born. Lived 10 hours.

26 North Laurel Street.

DISCUSSION OF PAPERS BY DRs. ALLEN AND BAUGHMAN.
DR. M. P. RUCKER, Richmond: I am glad Dr. Baughman defined conservative obstetrics as he did.

When he called me up some time ago and asked me to discuss his paper, I was afraid he was going to make the conservative obstetrician opposed to any change, an old time obstetrician who practiced the kind of obstetrics that is so graphically described by Dickens, in *Dombey and Son*, and *Oliver Twist*, and that I would have to classify myself as a radical. As I understand Dr. Baughman's definition, a conservative obstetrician is one who studies his cases carefully and chooses the method of handling each case that will give the best results to mother and child. The method varies naturally with the cases and with the facilities at hand.

In order to see how well I have qualified under Dr. Baughman's definition, I have gone over my last 1,000 cases. These patients have been delivered since September 23, 1926. With few exceptions, they have been delivered in a hospital. The average age was 27.1 years. There were three 14 years of age and one 46. Two hundred and sixty-six were 31 years or over and of these thirty-seven were over 40. Four hundred and ninety-eight were primiparae. Thirty-seven per cent of the series came from a distance. This is significant, as most of these were sent on account of some complication or the fear of some complication. For instance, there were 20 placenta previa, and 120 others were toxic. Eighty-two of the 502 multiparae gave the history of having lost a baby at a previous delivery elsewhere. Labor was induced 616 times, with Voorhees' bags. One hundred and fifty-two delivered spontaneously, while ninety-five were delivered with low forceps, and 276 with mid forceps. There were 427 versions and extractions (Potter's technic), twelve Braxton Hicks' versions, forty breech extractions, and four Cesarean sections.

The maternal mortality was 0.3 per cent and the maternal morbidity, according to the American Gynecological Society's standard, was 23 per cent. The three deaths were as follows: Case No 4697, a multipara, was bagged at term and delivered by version. She was sent home in an ambulance the following day in the care of an experienced practical nurse, who, on her own initiative, gave the patient a douche. She used the family douche bag and tip without any sterilization whatever. The patient had a chill on the sixth day, and on the seventh day post-partum her temperature was 105 and she was covered with a rash, like scarlet fever. Hemolytic streptococci were recovered from her blood. The patient developed an arthritis before she died on the 12th day. The second death, No 7024, was from eclampsia. The patient was brought to the hospital in an automobile from a point fifty miles distant. She had several convulsions at her home and several more in the automobile. None of the usual remedies (morphine, magnesium, sulphate intravenously, sodium bromide, chloral, intravenous glucose, etc.), had any effect upon the convulsions. She was delivered under spinal anesthesia, and it was noted that the spinal fluid was distinctly cloudy. The convulsions continued after the delivery and she died in a convulsion a few hours later. The third case, No. 6166, had a pulmonary embolism shortly after an easy version and extraction under ether anesthesia.

Statistics dealing with neonatal deaths and stillbirths are very confusing. In Williams' classical report of the first 10,000 cases in his service at Johns Hopkins, there were 760 new-born deaths. Over 29 per cent of these were due to syphilis. With the advent of the Wassermann and intensive treatment of the expectant mother, syphilis practically disappeared from his clinic, but his neonatal stillbirth death rate was not greatly lowered. Beck, in

1922, reported a combined neonatal death and still-birth rate of 3 per cent in over 1,000 cases at the Long Island College Hospital. Mathews, several years later, reported a still-birth rate alone of 4.4 per cent from the same clinic. Shortly after Beck's report, I was visiting his clinic, and, in talking about his excellent results, I told him that my toxic cases alone ran my rate up to his total mortality. His reply was that such cases were not included in his report. It was very evident, therefore, in comparing new-born infant mortality, that one should know the kind of cases one is dealing with. In my series syphilis played very little part. Six mothers had a 4 plus blood Wassermann, and four had a 2 plus reaction. In five additional cases the history of syphilis in the husband was obtained. One of the 2 plus reactors had an apparently normal baby, 51 cm. long, that died within 2 weeks, and one of the cases in which the history of syphilis in the husband was obtained had a boy 53 cm. long that died shortly after birth. One syphilitic mother had a macerated fetus 35 cm. long. It is interesting to note that this mother insisted on having her family physician give her homeopathic treatment, as he had been treating her husband in that way for some time.

On the other hand, toxemia of the mother and placenta previa played a big part. My gross neonatal death and still-birth rate was 88 per cent. If the 140 patients who were either toxic or who had placenta previa be deducted, there is left 860 who had 866 infants, there being six sets of twins. Among these 866 infants there were fifty still-births or neonatal deaths, or a new-born death rate of 5.6 per cent.

It would seem, therefore, from a comparison of the statistics that Dr. Baughman has presented and my own, that I am somewhat less conservative when measured by infant mortality, and somewhat more conservative when measured by material mortality and morbidity.

DR. G. B. BYRD, Norfolk: I just simply want to take up Dr. Allen's paper. I think, to begin with, any woman who is pregnant, wants her baby, so, in order to promise her or help her in any way to have that baby, I think you should begin early in that pregnancy to watch the mother, both as to her diet and weight, and to see if there is any chance of having a small baby, provided the measurements of the pelvis would indicate that such is necessary, beforehand. I say hope to get a small baby, because very often we try to get one by dieting and watching the woman's weight and get one twice as large as we expected. We know that babies do grow rapidly toward the last and that every day and every week they go over the term their bones calcify rapidly and that every day there is less possibility of molding the head.

As to the question of induced labor, several years ago I induced a good many. Fortunately, most of them came out all right, but you do run into certain snags when you go into it with the idea of getting a small baby. First of all, you get a premature baby, and a premature baby has not the chance that a full-term baby has. You have two things to consider: First, there is a little more danger of infecting that woman in going through the vaginal canal and dilating the cervix or introducing a bag; another thing, there is always a certain risk of causing a prolapse.

The next thing I have to bring up may sound radical, yet I think it is in a way conservative. I think in a border-line case, where you have a case that you think is going to have a difficult labor, I believe that you will stand a very much better show

of having a normal child and I don't believe the mother will be injured any more by a clean Cesarean section than by going through in the vaginal way.

I enjoyed the statistics very much, and I think Dr. Baughman is entirely right; it is not a question of what you do, but the results you get, of the method that works best in your hands and from which you get not only the fewest maternal deaths but the least mortality.

DR. C. J. ANDREWS, Norfolk: I have no doubt at all that Dr. Allen himself understands and has worked out a definite plan which he finds satisfactory and from which he gets good results. We have been through that stage of inducing labor for supposed over-time. Now, in the first place, if the baby is not large, there is no reason to do it. About a year ago I had a woman sent in to our clinic by one of the local practitioners, a very close friend of mine, incidentally. She was supposed to be two weeks over-time, and he had given her castor oil, and she had started up and quit. Three weeks later she was given castor oil, again was supposed to be in labor, and quit again. The house doctor asked me why I did not go ahead and deliver her, if I did not fear that I would get into serious trouble. But her measurements showed that the baby was not large, and I told him that unless she got in serious trouble I was going to give her a year. That was in November. I heard nothing more about her until in January I happened to see my friend and asked about her. He told me that he had happened to be across the street from her home when he was called to her because labor had started, and the baby was born before he got there. The baby weighed eight pounds. I can not be too emphatic about that thing. Dr. Byrd and I have both come to about the same conclusion. I tell them when they get too anxious about the baby, to wait a while and the woman will probably have it herself.

I am enormously impressed with Dr. Baughman's report. I do feel that deliberately inducing labor and then doing a version on the woman is wrong. I talked to Dr. Rucker about version and asked him why he did it. He said to save them time and save them pain in labor. I can not feel that, if it ever comes to a method of selection, version is the method of choice. I have seen Dr. Rucker do it, and he does it very skilfully, but I believe other methods are better.

DR. BAUGHMAN, closing the discussion: I have great faith in two other things; one is the McDowell method of measurement, and the second thing is this, which I commend likewise to your attention—X-ray pictures of the woman about the time that she is supposed to be full term. All I expect to get from the X-ray is the boning of the baby's head and the general boning of the baby.

There is not a man in here who has not real convictions about this thing, and I am sorry we have not had more discussion.

Answering the question that was asked about the septic woman reported in my paper, I think that was the woman that died of peritonitis after Cesarean section, the one that was in labor for thirty-six hours before entering the hospital. This was Dr. Gray's case. He told me about it, and I knew about it at the time, because we discussed it. The woman was in town and was sent to Dr. Gray because her doctor was uncertain. Dr. Gray examined her and told the woman, her husband, and the doctor, that there was not one chance in a hundred that she would deliver the baby. She had a big baby at that time, and it was about three weeks

to term. It was not the doctor's fault. As soon as she went into labor he went to see her, and they had a long and acrimonious discussion as to what should happen. He tried to get her to go to the hospital. He did not examine her at all. He said one time he was going to quit the case, but he hung around and hung around until she finally consented to go to the hospital, when she was operated on immediately.

Dr. ALLEN, closing the discussion: I think, as Dr. Baughman said just now, every man in here is interested in this subject. It is a very, very practical subject, as I mentioned when I started talking about it.

Dr. Byrd mentioned the diet and other efforts at getting small babies. I am going to pass that by with one or two sentences and say I have lost all interest in diet as a means of getting a small baby. I am not interested in what diet the woman has and am not interested in the size of the baby except that it shall not get too big for the woman.

I did not mention premature babies. I tried to refer only to the induction of mature labor and not premature labor. I do induce premature labor and have the courage of my convictions to stand up here and say so, and, if I had time, I could give you a great number of instances in which I have gotten brilliant results. I am talking today about the induction of mature labor when the woman is at term. I do not want her to go over term; that is what I am concerned with.

By the method that I use in inducing labor I believe there is practically no danger of prolapse of the cord. My address made no reference to contracted pelvis; I am not talking about that at all, but about ordinary pelvis with over-sized babies with hard heads.

RELATIONSHIP OF THE VARIOUS SPECIALTIES TO GENERAL MEDICINE—PRESIDENTIAL ADDRESS.*

By A. A. HOUSER, M. D., Richmond, Va.

I am happy to have a part in the arrangement of this program, a symposium on medicine.

Medical science has developed so many different ways of rendering service to man that no single physician can become efficient in every branch of practice. It is difficult for a worker in one branch of medicine to have a comprehensive picture of just how much his co-workers in other branches of medicine could do to assist in the improvement of the health, comfort or usefulness of his patients.

It is so easy for the physician to let his success cases interfere with his mental growth that he fails to recognize his limitations. Every branch of medicine renders service to some patients who are so grateful that it is easy to lose sight of the ones who were not

helped; many in this latter class carry a grudge against the profession as a whole.

There is no environment that lends more inspiration to a friendly discussion of our endeavors to serve the public than St. Elizabeth's. Dr. Horsley has made the impression on every interne's mind that truth was the outstanding virtue of every physician. There is not an ex-interne of St. Elizabeth's but who has heard Dr. Horsley make frank statements of error to his patients.

In the memory of even the young man in medicine there was no very definite line to distinguish the specialist from the general practitioner. The surgeon was considered in most communities the highest diagnostic authority. The obstetrician was seldom regarded as a specialist, and most other specialists did not confine themselves to a narrow line of work. In the past few years, even the master in surgery will not subject his patient to an operation without having him surveyed by a clinician.

It is the tendency of the specialist of today not to treat ailments that do not come directly under his line of work. With the increasing number of specialists the patient has tended to become more confused, and at times receives inadequate service by not having the guiding and educating help of a general practitioner. Every patient should have the services of what is probably the most useful of all specialists, the general practitioner, who should be a specialist in giving wise counsel. He may not know as much about the technic of treating pathology that primarily concerns the other specialists, but he knows the patient vastly better. It is only with his help that the patient has much opportunity of having his educational growth synchronized with physical improvement. The specialist who is a master in some narrow line does not have the same opportunity to grow in human understanding. Medical knowledge has grown so fast that it is impossible for any physician to treat every ailment of his patient advantageously. It is as unworthy of the physician to deny his patient the help that the specialist can give, as to treat him wrong willfully. With this new order of practice in which more than one physician has to do with the patient's treatment, there is imposed a new obligation upon professional relationship.

There exists in the minds of many physicians a feeling of duty to protect the procedure

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of his fellow consultant, even to the harm of the patient, an attitude that would leave the impression that the patient was the accessory of the physician, rather than the true relationship in which the physician is the accessory of the patient.

Consultations are often unprofitable to the patients on account of there not being an environment that each consultant can give a free expression of his opinion to the patient. The consultation is of primary concern to the patient who pays the fees, and is entitled to the opinion of all of his medical attendants. The moral courage to give expression of frank opinion in every consultation is a great force to elevate the standing of professional thought.

There is being developed rapidly in the laymind a better perspective to differentiate between the efficient and the non-efficient physician, while personality has in the past been the largest factor in the determination of the physician's success; this is not as unfair as it may seem on casual judgment. Medical practice is concerned with two things—scientific medical knowledge and understanding of the individual who is to receive benefit from it. The most scientific physicians often do not have the best understanding of the individual who is to receive the potential benefits of scientific medicine. Personality is not an abstract endowment with which some men are born, but a quality that is achieved directly in proportion to the individual's ability to understand his environment. In many cases it is an essential qualification for the physician to have in order to elicit the cooperation of the patient, an essential condition for satisfactory treatment.

Personality in medicine is secondary to scientific medical training, but is very essential to its successful application; there are specialties of medicine that can get along better with less personality than the surgeon, internist or general practitioner.

There is often a feeling of tension harbored against the physician in whom the personality achievement dominates the scientific achievement, by the physician in whom the scientific achievement has smothered the personality development. If the scientific physician could feel entirely dominated by his obligations to his patients, and not be intimidated by the fear of continued support of the physician of more personality, and likewise more patients,

there would be a growth by both,—the man with personality would increase his deference for science, and the ultra-scientific would get a clearer vision of the activating force of personality that makes scientific reactions work more smoothly.

There is no greater inspiration that we can get out of our return to St. Elizabeth's each year than to increase our desire and ability to be more perfect exponents of truth.

I want to open this symposium on medical practice by discussing one of the growing medical specialties—the periodic health examination. This is a field that offers the greatest utilitarian value of any of the specialties of medicine. It is conservative to prophesy that the average length of life could be doubled, if everyone had access to an efficient Health Survey at regular intervals.

The medical setting for a physical survey that has health development as its main object, has many differences from the survey made to diagnose symptom-giving pathology. There is the same need for an understanding of the methods of eliciting pathology, and a greater need to have a vivid conception of the individual entirely free from pathology. The common medical conception is to divide people into two classes, the sick and the well. The conception of the health examiner is one of varying degrees of health potentialities. It is doubtful if any one is well, if the conception of health is the individual's height of physical and mental perfection. I have not yet examined a patient who very closely approached this standard of health. The periodic examination falls far short of its possibilities if the examiner concerns himself only with the evidences of well-defined pathology. There are always evidences that are very definite in the pre-pathological state, suggesting a trend to the development of pathology. These phenomena are of primary concern to the examination that has for its object health development.

One of the greatest handicaps to a proper diagnostic conclusion is the premature opinion, which often has the mechanism of a guess from some suggestion early in the contacts, and all of the diagnostic effort is expended to prove the guess. The health examination must be done with the examiner maintaining at all times a strictly judicial attitude, collecting evidence with a resilient mentality until it has all been obtained,—then the examiner

is in a position to crystallize a diagnostic conclusion of greatest value. It is more essential that the health examination be conducted with a strict and elaborate routine, than the examination of the patient with evident pathology; the sick often have symptoms to suggest necessary investigation, but the health examination has none of these directing signs.

It is more essential that the health examination be conducted under the close supervision of an individual examiner, than the examination of the sick, as the emotional mechanism has to be studied as closely as the physical.

It is a tradition among physicians that the history is the most important factor leading to diagnosis. The health examiner should exclude all history except the statement of the patient of his conception of how he feels in comparison to his conception of how he would like to feel. This statement is not usually accurate, and need not be, but it should be an honest effort of the patient to portray the kind of reaction his mind gets from his body. All other history should be kept out of the picture until the examination is concluded. It may then be added as a supplement. It should not be considered until a thorough digest of all other data of the physical examination has been made.

The routine procedure of the health examination should take nothing for granted, regardless of how well the examined may look and feel. As a principle the more elaborate the routine the better. There is opportunity for many procedures in laboratory diagnosis to render a greater service in the health examination than in the diagnosis of the sick.

It would be unduly tiring to spend time discussing the value of the more common routine applied to the health examination, it being a parallel of a well ordered physical examination. I am going to state only a few procedures that are often under-estimated as to value. There is a close relationship between a good chewing surface and a clean mouth—to health and longevity. This is one of the most essential corrective opportunities of the health examination. The ophthalmoscopic examination is a means of getting the earlier view of vascular change. This information is diagnostic of pathological tendencies as well as giving suggestions of the habits of the patient.

The prostatic examination may reveal prostatic inflammation that can be easily corrected,

that would have given serious trouble later in life. The routine blood sugar determination will reveal many pre-diabetics, that can usually be handled with little difficulty when diagnosed at this early period of development. The Grie's test is a simple method to charting quiescent pyelitis that is probably one hundred times more prevalent than is commonly thought.

The health examiner must be concerned primarily with investigation on the part of the examiner and not with the help of the patient through question asking. Information gotten from the patient is more apt to be wrong than right, regardless of how intelligent he may be. The health examiner must learn that every living thing portrays in its being at all times the kind of life it leads, both mental and physical. In the physical examination he has had opportunity to acquaint himself with the conditions that exist, and the habits of life, both physical and mental, that tend to divert his patient's health potentialities, with very little assistance from the patient.

The time necessary to complete a health examination is different in different individuals, but no examination should be completed in a single conference.

During the process of the physical examination there should be developed a democratic relationship between the patient and doctor, though the conversation should not concern in a definite way the examination at hand. Any health examiner who discusses the examination as it progresses adds greatly to his opportunity of not successfully giving an accurate picture to the patient of the relative importance of his existing pathology and pathological trends.

The most important part of the health examination is the educational conference that should follow the examination. With persons of a nervous temperament, it is sometimes profitable to make a statement before the examination is completed, stating in a general way their condition, allaying some special fear of disease which they may have been harboring, and which usually does not exist. It is well to be always careful to emphasize the fact to the patient, that this is a preliminary statement that is honest but the evidence is not all in. The examiner must be in a position to disregard his preliminary statement in his final conference with the patient.

The value of the health examination to the patient is dependent upon two things, namely, the ability of the examiner to ascertain the physical and mental potentiality of the patient and to transmit the principle of this information in practical form to him that he may make intelligent health growth.

The health examiner must regard himself primarily as a teacher. The predominant factor in health realization for the individual is health understanding. The great amount of health information taught through the public press is a help in this education conference, mainly through increasing the patient's receptivity to health reforms. No man can use to great advantage this general health teaching without an occasional health survey and specific training as to how scientific medicine is of service in his individual case.

The final conference is the vital part of the health examination—this should be an exposition of the patient as the physician sees him, kindly but truthfully stated.

The physician should have made his examination carefully enough so that he is willing to risk his professional standing with the patient in describing all existing pathology and pathological trends. He should also take pains to convince the patient that this is all he knows about his deviation from normal. It is a well-established conception in the minds of many people that the doctor never tells the patient all he knows. The greatest service to medical practice and health of the community is to convince the public that physicians as a rule tell the whole truth.

After outlining the physical weaknesses of the patient, he must know the forces and living error that developed them and the habits he now has that interfere with their recovery. He must have a picture of his bad physical habits; such as improper food as well as bad habits of work and play, and also be introduced to his emotional reactions that he often fails to regard as a health influence.

The health examination has a visible technique likened to the examination conducted for the purpose of explaining symptom giving pathology. It must also have an invisible technique associated with the visible, that the examiner can sense the emotional mechanism and its associated pathological tendencies. Every step in the visible technique has its associated invisible potentialities to reveal some

further attribute of the patient's emotional make-up. The one step in the visible technique that predominates in contributing to the invisible art of emotional understanding is the blood pressure readings. This is a subject sufficient for a thesis in itself. The sphygmomanometer has a greater potentiality for service in revealing emotional tension that will produce cardiovascular pathology, than it has in giving information of existing cardiovascular pathology.

Every physician is fully conversant with the importance of early diagnosis of many diseases, especially cancer and tuberculosis. There is a pre-pathologic setting that usually makes these dreaded pathological conditions possible. Had they been sensed in the health examination and corrected, the chances are the conditions would not have developed. This is also true with most of the infirmities of old age.

The greatest hindrance to the more rapid growth of this specialty is its freedom from the spectacular. The patient does not have a vivid conversational picture of the tragedy he has been prevented from having. The treatment in the main is educational, diverting him from the tense emotional being to a being with a greater reverence for the privilege of life, developing zeal to meet the normal requirements of the body that he may have the maximum energy to market in the performance of service.

There can be nothing but reverence in the mind of any man who reviews the history of medicine for the past 100 years. But medicine up to the present time has been mainly concerned in man's visible pathology.

Machine and Man.

The factory engine wouldn't start,
And so they took the thing apart
To search for flaws.
They took it down from top to base;
They looked at flange and gear and case
To find the cause.
"Something is broken," they declared,
"And what it is must be repaired."

Near-by a drowsy workman stood,
And some one muttered: "He's no good!
Just let him go!"
They didn't take this man apart,
Or think to search his mind and heart,
The cause to know.
Nobody thought to ask him why
There was no luster in his eye.

But had they looked into the gloom
Of what he called a sitting-room,
Or searched his life;

They would have found a woman frail,
Tubercular, and drawn and pale,

Who was his wife.
And then they might have understood
Why that man seemed to be no good.

When engines in a factory stop
We search the things from base to top;

But when man breaks,
'Tis very seldom that we pause
To search his life to find the cause
Of his mistakes.

Yet we might mend him could we find
The thing that's preying on his mind.

Medicine of the future must develop the same interest in man that he now has in his pathology. The destiny of man can only be wisely directed by the physician. Health is only stable when there is a perfect synchronization between man and God. No man is better qualified than the physician to direct man to God, by teaching him how to render the greatest service with his life's potentiality. Aptly was Jesus styled the Great Physician.

THE RELATIONSHIP OF PATHOLOGY TO GENERAL MEDICINE AND DIAGNOSIS.*

By WILLARD G. RAINEY, M. D., Princeton, N. J.

Doctor Horsley¹ has said that the student who feels that "his study of anatomy, embryology, chemistry, physiology and pathology should cease after the first two years of his course and should be remembered only for purposes of passing his examinations can never attain a full grasp of scientific medicine." As to pathology Karsner² expressed a similar thought somewhat differently: "If the position of pathology in the medical curriculum today were to be described diagrammatically it might be stated that it occupies the neck of an hour-glass. The students receive in their earlier years their conception of the fundamental sciences and as the sand concentrates toward the neck of an hour-glass so are the methods of these fundamental sciences concentrated in the study of pathology, the student later branching out in the clinical divisions to apply to the diagnosis of disease the methods and conceptions acquired in his preceding work. . . . He is then prepared to enter on the study of those changes from the normal which constitute the natural history of disease."

Pathology, like physiology, is one of the cornerstones in the foundations of medicine.

Indeed modern pathology is one of the most important of the fundamental sciences to the practitioner, for its scope embraces not only morbid anatomy but also bacteriology, parasitology, and immunology, and the pathologist of today frequently finds his problems carrying him far into the field of pathological physiology.

It has long been true that outstanding clinicians have found a considerable service in pathology one of the best preparations for a brilliant clinical career. Osler, perhaps, is one of the most prominent examples in that field limited to medicine, though the list might well be extended to include other notable names not only in medicine but in surgery as well.

It would be difficult to make too strong a plea for the routine autopsy. "Only the pathologist realizes how many patients with hysteria have brain tumors; in how many heart cases there are no valvular lesions but nephritis; that 10 per cent of all old persons die with unsuspected cancer" (Wood).³ Unfortunately, a very large number of autopsies performed in the United States are upon cases of obscure nature, or at least of doubtful diagnosis, and it is not easy, therefore, to draw altogether accurate conclusions in a statistical study of autopsy findings as to the percentage of error made in clinical diagnosis. Cabot's⁴ study of the clinical and autopsy diagnoses in three thousand cases aroused a great deal of discussion, and reports of similar nature have doubtless done much to stimulate accuracy in clinical diagnosis. Clinico-pathologic conferences have proved immensely valuable to both clinician and pathologist, especially where attempts have been made to correlate clinical and pathological findings. Other interesting efforts have been made to bring pathology into practical use in diagnosis. Symmers⁵ has reported a method used in his teaching whereby an elective course is offered in which the student has the opportunity of bedside study with the pathologist in cases in which the diagnosis is "eventually apt to be verified or denied by such laboratory procedures as the histologic examination of tissue removed by biopsy, operation or autopsy or by chemical, bacteriologic, serologic or other laboratory methods fashioned to supplement clinical observation." Such methods are giving physicians today opportunity to use pathology in

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diagnosis to a most practical advantage, or, as Wood³ has said to "know and use it to temper (their) diagnostic and therapeutic enthusiasms."

It has not been the purpose of this paper to classify the various detailed ways in which pathology is of practical value in diagnosis, nor has it been intended to extol its virtues to the exclusion of other fundamental sciences and highly important clinical methods, but rather to emphasize the value of the correlation of clinical and pathological findings in increasing diagnostic accuracy.

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RELATIONSHIP OF GENERAL SURGERY TO MEDICINE.*

By JOHN S. HORSLEY, JR., M. D., Richmond, Va.
From the Department of Surgery of St. Elizabeth's Hospital.

While surgery has been defined as the mechanical part of medicine, this statement today is far from the whole truth. Surgery is a science within itself. It is also a constant guide and aid in all of the fields of medicine. The various specialties and branches of medicine require the same fundamental training, and necessarily these specialties must be closely allied. The difference between a physician and a surgeon is only a matter of degree; and only in the dosage, as it were, in which they administer operative therapy are physician and surgeon apart. It is highly important for one who is disinclined to operate in large doses to have just as thorough an understanding of the limitations and possibilities of major surgical procedures as the surgeon possesses; for a knowledge of surgery does not necessarily entail its practice (Cushing).

The surgeon, after all, is only a specialist in manipulative medicine, or as Cushing has so well put it "an operative physician." Surgery as an integral part of medicine has furn-

ished and continues to furnish easy material for the critic, the dramatist, the cynic, and the cartoonist to exercise their talents at the expense of the surgeon. There is nothing easier than to sneer or rail at surgery by those who are not in need of it. But in the presence of the cynical and grossly material concept of the surgeon's role in the social fabric, it is only fair that something should be said to prove the baseness of the charge that he is mercenary, soulless, indifferent to the fate of his fellows, greedy for gold, and thirsty for publicity and notoriety (Matas). For the existence of this opinion, the quack and the imposter are largely responsible. In his presidential address before the members of the Mississippi State Medical Association, Matas says that we must recognize the fact that we are not alone in being cursed with quacks for they are found in all occupations. "The quack is a loud-mouth pretender, a person who seeks to gain confidence by unworthy methods or an individual who claims to have a specific for various disorders of manners, morals, finance, and politics. There is a quack in statesmanship who would reform every abuse by the iron application of a favorite formula; the quack in law who stimulates litigation and conducts legal procedures with no regard whatever for the interest of the community; and the quack in religion, who claims to have personal influence with the Creator, invariably speaks as a self-constituted oracle of the Almighty and, to quote a picturesque phrase of Dr. Chalmers Da Costa, 'would take us to heaven in the private parlor car of a lighting express.'"

Much of the disrepute that has come to surgery, however, has not come through the ordinary coarse, ignorant quack who advertises, but from those who are regarded as regular practitioners, the type that Matas calls "wolves in sheep's clothes." "These are the men who, knowing better, see an operation in any and every complaint made by the unfortunate victims of their cupidity and soullessness. They are the men who resort to all sorts of subterfuge to coax their patients to the operating table. They are the men who see in every cramp, an appendix; in every belch, a gall-stone; in every heartburn, gastric or duodenal ulcer; in every uterus, a cancer or a fibroid; (in every tonsil, a tonsillitis); in the abdomen of every neurasthenic young

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woman, a diseased ovary, an infected tube, an extra-uterine pregnancy; in every neurotic woman's abdomen, a floating kidney or a prolapsed or displaced organ, that nothing short of an operation, a laparotomy, can cure or relieve,—provided the patient can pay the necessary fee. It is wonderful how sometimes the urgency or perils of a patient's pathology shrivel into a negligible quantity when it is discovered that the pocketbook is empty and that there are no stakes to rake off from the game."

As rational therapy can be established only on a correct diagnosis, such must be regarded as a factor of fundamental importance. The same clinical application is demanded of the surgeon, the internist, the general practitioner, and the specialist, all of whom must be diagnosticians in order to be successful physicians. The public has come to recognize the value of careful examination and study. There is a growing tendency among them to seek advice of their own free-will from a specialist or a diagnostic clinic. It would be better if they would consult their own physician who in turn should either be trained and equipped to examine the patient himself or personally refer him for diagnosis. In this way the physician retains the confidence and goodwill of his patient and continues with the treatment.

As Beck states, "Unfortunately, experience shows that physicians who lack the necessary knowledge and training often fail to recognize the advantages of a thorough clinical study, whereas those physicians who possess a wider knowledge of medicine and considerable diagnostic acumen insist on further study. There are innumerable signs and symptoms which the family physician can properly interpret and diagnose if he is in the habit of considering the environment of his patients. Then again, there are other signs and symptoms which cannot be expressed in terms of diagnosis without especial investigation. These investigations may call for blood chemistry, metabolic determination, roentgenologic studies, etc. It is as much a part of diagnosis to recognize signs and symptoms which demand a special examination, as to know the significance of a heart murmur or albumin in the urine. Whether engaged in general practice in a small, isolated community, or in some special field in a large medical center, we all possess the same opportunity for development

along certain lines, especially in what may be regarded as the practice of the art of medicine."

A brief discussion of some of the indications for surgical operative therapy will follow: The indication for operation must never be based alone on laboratory findings, X-ray examinations, etc. These are of the greatest value but can be considered only as corroborative evidence. The diagnosis must be made on the complete clinical picture. The surgical problem now is not to have the patient merely survive the operation, but will he be well, symptom-free, useful to his calling and to society? There are two types of cases where the indication for operation is absolute: First, those where an immediate restoration to health may be expected. Second, those which pave the way for further and effectual treatment (III).

Under the first class come those cases of accidental character. Even the smallest wounds should not be neglected. Infection quickly and easily takes place and poor results may be expected if immediate attention is not given. In wounds or injuries of the abdominal contents, a great responsibility rests with the surgeon. Careful and constant observation is essential. Distention, increasing rapidity of the pulse rate, fever, etc., are definite indications for operative intervention. The element of shock and hemorrhage may or may not mask the picture. Early operations carefully performed will save lives. The later the operation after such injuries, the more serious the prognosis. Injuries of the skull must also have very careful consideration. Each case must be treated individually. It is well to remember that children often stand concussion and compression of the brain better than adults. Immediate operation is nowhere more indicated than in injuries to the trachea and in the inhalation of foreign bodies. Simple fractures when not involving the trunk are of less urgency and call for more deliberate action. Compound fractures, especially those involving the viscera, are benefited only by immediate action. Septic conditions of the eye and ear present distinct indication for immediate interference.

Among the more important conditions that call for prompt action are perforations of the intestinal, biliary, or urinary tracts. In acute appendicitis, it is wise for the surgeon not

to tarry. Once a definite diagnosis of acute appendicitis is made, the surgeon will never regret an early operation. Those of us who have seen many such cases treated along the so-called conservative lines by freezing, etc., recall to mind lives that have been needlessly lost. Intussusception in children, intestinal obstruction, and strangulated hernia are some of the other diseases where the indication for immediate operation is restricted only by the possibility of an incorrect diagnosis. Deliberate consideration and careful study should precede all stomach, intestinal, and intra-pelvic operations. The factor of correct diagnosis is extremely important. The determining of whether the so-called medical treatment should be used first or entirely is another factor of great importance.

The so-called precancerous lesions present definite indications for operative therapy. It is common knowledge that all malignant conditions should be operated upon early, if a cure or even a prolongation of life is to be expected. So far as we know, the only hope in the treatment of malignancy lies in its early and thorough operation.

Thus we see that the close alliance and intelligent cooperation between the physician and the surgeon are of vital importance in effecting a cure, prolonging a life, and, in short, carrying out the sole purpose of medicine. Again, surgery is a constant guide and aid in all of the fields of medicine.

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THE RELATIONSHIP BETWEEN RADIOLOGY AND MEDICINE.*

By WRIGHT CLARKSON, M. D., Petersburg, Va.

In speaking of the value of the roentgen ray as a diagnostic agent, Bloodgood in a recent editorial makes the following statements: "X-ray has a wider application in the recognition of organic disease than any other diag-

nostic test" and "the public and the medical profession have failed chiefly in recognizing the protection of an X-ray study of the stomach the minute there are any warning symptoms from within the abdomen." He also states that "the majority of persons today are not content with the diagnosis of 'growing pains,' 'charlie horses,' 'bumps,' sprained ligaments, torn muscles or the most dangerous diagnosis 'rheumatism,' and that no child or adult was cured of sarcoma of bone in Johns Hopkins Clinic until 1913, while now 30 per cent are being cured due to education and X-ray."¹

These statements, and others in modern medical literature, bring forcibly to our attention the value of roentgen diagnosis but we should not forget that they will serve only to help bring roentgenology into disrepute unless physicians realize that roentgen diagnosis is not simply a picture-making process. Many manufacturers today, led on by the lure of additional profits, are placing inadequate equipment in the hands of hundreds of physicians who are absolutely ignorant of the science of roentgenology. No human mind is capable of mastering all of the medical arts, and few, if any, of doing the best work in any two of them. There is no branch of medical science requiring more profound and prolonged study to conquer than that of radiology. It deals with every phase of scientific medicine, and without years of concentrated effort, coupled with a close cooperation with masters in the various other branches of medical science, the best results cannot be attained. The radiologist must be considered as a consultant, for in a large percentage of cases a correct diagnosis cannot be made until the clinical and roentgen findings are closely correlated in actual consultation.

Not only does the radiologist need the cooperation of the internist and surgeon but also of the pathologist, physiologist and those in all the other special branches of the medical art. Successful roentgenology means following the cases to the operating room, a constant check-up on the clinical developments and, in fatal cases, examination at post mortem.

Poor roentgen reports or the lack of regular roentgen consultation by a physician results in getting the physician in disrepute with his patients and ultimately results in professional and financial loss to him. On the other

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hand, a roentgenologist who relies only upon the shadows upon the films, disregarding the valuable aid he may receive from his consultations with the surgeon and clinician, will make many avoidable errors with resulting suffering, injury and loss of life.

Only a small percentage of our surgeons and internists know the value of good radiology because it is now generally conceded that the number of hospitals far outnumber the number of competent radiologists, and if young men are to be encouraged to spend the necessary years of preparation in the field of radiology, surgeons and internists must encourage the art by demanding the services of a competent radiologist and not of the novice, or, as in many communities, the services of lay laboratories which deprive the radiologist of so much revenue as to make the purchase of adequate equipment impossible.

The enormous amount of charity work thrown upon the roentgenologists of today through various charity clinics, etc., makes their burdens increasingly heavy, and if the income continues to decrease through the installation of roentgen equipment in the offices of physicians in private practice, it will not be long before the services of a competent roentgenologist will be available only to those in the largest medical clinics.

A lack of close cooperation between surgeons, internists, and roentgenologists can lead only to a deterioration in the science of roentgenology and, through want of adequate diagnostic and therapeutic roentgenology, to a proportionate deterioration in the whole science of medicine. Let us, therefore, think less about making a spectacular first impression upon our patients and more about our duty to our profession and to humanity, which will eventually bring far greater reward, both professional and financial.

In considering the relationship between radiology and medicine, one should not forget that most radiologists have no patients of their own. Speaking personally, I prefer to act only as an aid to the physicians who trust their patients to my care, and consider it a duty and privilege to cooperate with them to the best of my ability.

Roentgen reports should be made only to the physician and even when a positive diagnosis cannot be made by the roentgenologist his report should include all the evidence revealed

by the examination, for it may give the internist the additional data necessary for a correct diagnosis.

Radiotherapy is quite efficient in epithelioma, eczema, and many other common ailments, and patients soon learn that they may be cured of these ailments by radiotherapy. Radiologists are, therefore, receiving an increasing number of calls from the laity to treat these conditions. A patient certainly has the right to choose his physician, but the family physician should also be consulted in these cases if the best results are to be obtained and if the cordial relationship between radiologist and physician, so essential to the progress of each, is to continue.

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RELATION OF OTO-LARYNGOLOGY TO GENERAL MEDICINE.*

By M. L. BREITSTEIN, M. D., Baltimore, Md.

The specialty of oto-laryngology has long ceased to be an isolated field. It has become more and more bound up with the fundamental knowledge underlying general medicine. While it is true that a specialist is a specialist by virtue of special experience and specialized technique in the diagnosis and therapy of diseases limited to a narrow field; it is undoubtedly also true that this special knowledge is more important when it has as its basis a broader understanding of the principles and practice of medicine in general. When the findings in a special field are to be considered in relation to the general problem of the patient as a whole, then I say unhesitatingly that the evaluation of the findings of the specialist belongs to the internist, alone.

Due largely to the publications of Marriott,¹ much emphasis has been placed recently upon the relation of ear, nose, and throat infections to the more general problems of pediatrics. Upon investigation it was found that the infections of the ears, nose, and throat in children often precede nutritional or gastrointestinal disturbances. With the onset of a slight rhino-pharyngeal infection there is often observed a repeated decline in weight and, at times, diarrhea and vomiting. In those cases in which it was possible to clear up the infection

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by local treatment or by an incision of the drum, there occurred simultaneously, an improvement in the infant's nutritional condition and the cessation of the gastro-intestinal symptoms. Treatment of the infection in these cases exerted a far greater influence than the many changes in the character of the food. It was, in fact, found unnecessary to change the diet except in those cases in which the food was qualitatively or quantitatively insufficient.

As far back as 1684 DuVerney found at autopsy pus in the mastoid antra of infants dying from nutritional disturbances. He interpreted these findings as due to post-mortem change. The same findings in 1923, however, led to the suspicion that the mastoid infections might be the primary cause, and drainage of the infected antra during life was therefore, carried out. Simple post-auricular drainage was in many instances followed by an extraordinary change in the general condition of the infant. In variable cases, the temperature became normal and diarrhea and vomiting ceased without any change in the character of the feedings. It should be emphasized that in most cases there was no external evidence of mastoid involvement. The decision to operate on these infants was based more upon the general medical findings than upon the otologic indications. It is especially interesting to note that the organisms found in the mastoid at the time of operation and at autopsy were frequently quite different from those found in the middle ear. Marriott says that in his experience over 85 per cent of all gastro-intestinal and nutritional disturbances of infants in recent years have been due primarily to infections in the ear, nose, and throat. Some infants with persistent pyuria show no improvement under the usual methods of treatment until co-existent infections in the ears, nose, and throat are cleared up.

A rather frequent accompaniment to rhinopharyngeal infections in children is disturbed digestion associated with hypochlorhydria. The relation between asthmatic symptoms and purulent sinusitis is well known. The influence of nose and throat infections on nephritis has been much discussed. In children the various forms of nephritis may be seen in the early stages and it is easier to determine possible causative factors than in the cases of adults. The most common type of nephritis seen in children is acute hemorrhagic and glomerular

nephritis. This very frequently follows an acute streptococcus infection—generally of the nose and throat. In the majority of instances the condition subsides after a period of time. Albumin and blood disappear from the urine and apparently complete recovery follows. In a small proportion of the cases the symptoms persist. The urine remains unchanged, the blood pressure rises, and there develops finally the picture of chronic nephritis with hypertension and renal insufficiency. Longcope² has recently pointed out a relationship between persistence of streptococcus infections of the nose and throat and haematuria.

The rational prophylaxis of any disease consists in the institution of measures to prevent those conditions or diseases which are known to stand in etiological relation to it.

The question as to whether or not infection in the nose and throat may be regarded as a primary cause of parenchymatous nephritis or nephrosis cannot be settled on the basis of available evidence. Patients with nephrosis are known to be very susceptible to infections of all kinds and such patients would be particularly liable to develop nose and throat infections during the course of the disease, even were these infections not originally present.

Wilder, Woodyatt, Allen and Van Noorden³ stress the importance of focal infection in the teeth, tonsils and sinuses of diabetics. Their collective opinion is that these infections have a decided influence on the disease and that even partial eradication of these foci will promptly show better and more lasting results. There are various diabetic disturbances of the ear, nose, and throat which frequently cause the patient to be observed first by the otolaryngologist. Repeated and persistent furunculosis of the nose and ear is a common finding. The purulent infections of the paranasal sinuses and the ear are undoubtedly more persistent in the diabetic and likewise they occur much more frequently in these patients. Mastoiditis in particular is a most stubborn affair when it occurs in conjunction with diabetes, and the ear man must call upon the internist if he is to get any result. Frequently, it has happened that only through the pre-operative routine laboratory tests at the hospital has the presence of diabetes in these patients been discovered. So impressive has this been that one of our specialty hospitals is now thoroughly equipped for the handling of diabetic cases—

under supervision of the internist. It is only recently—thanks to insulin—that surgical operations could be undertaken in many diabetics. Now, with the close observation and cooperation of the internist, most surgical procedures are undertaken in these patients with little fear of unpleasant sequelae. Not infrequently the throat man sees cases of chronic indurative laryngitis and even laryngeal edema which has as its basis diabetes. How futile would be the specialist's efforts without the cooperation of the internist!

The role of infection in the etiology of hyperthyroidism and goiter seems uncertain. The importance of infection in the course of hyperthyroidism, however, seems to be definitely established. The infections would appear to cause exacerbations of the hyperactivity of the thyroid gland. The removal of focal infections is not a cure for hyperthyroidism. However, when in the opinion of the internist the general condition warrants the removal of offending foci, there would seem to be less recurrence of the thyroid hyperactivity. No surgical procedure in the nose and throat should be undertaken in any case of hyperthyroidism without close observation and cooperation of the internist; for we know what very distressing results any shock may cause. Not so long ago I saw such a patient in whom there was a tremendous hyperthyroid exacerbation following the extraction of a tooth.

Just how vitally alert the oto-laryngologist must be to the connection between his specialty and general medicine may be illustrated by a recent publication of Barlow.⁴ After investigations he finds that the deficiency of vitamin A in the diet may cause changes in the mucous membrane of the respiratory tract. These changes may extend to involve the mucous membrane in the middle ear, and the persistence of these affections may be responsible for permanent pathology in the soft tissue of the middle ear—resulting in deafness. At present much work is being done along this very line to help solve the problem of oto-sclerosis. It is my opinion that some similar approach may one day bring a solution to the impasse which now exists in the treatment of atrophic rhinitis.

Because of the great frequency with which acute infections involve the respiratory tract there is perhaps no field of work with which the contact of the general practitioner of medicine is more frequent than in the field of

otolaryngology. It is undoubtedly true that a large number of people complaining of headaches, neuralgia, migraine, chronic cough, bronchitis and asthma—in large proportion are suffering from upper respiratory tract infections. The infections of the posterior sinuses are particularly harmful and the posterior ethmoid and sphenoid infections are among the most dangerous foci of infection in the whole body. These sinuses may drain directly into the mediastinum, producing there mediastinal adenitis and peribronchial infection. They may keep alive and active chronic bronchitis, asthma, and bronchiectasis. They may explain latent bronchopneumonia, hilum pneumonias, and they may initiate the flaring up of many a case of previously arrested tuberculosis.

The subject of focal infection has been very sufficiently stressed. However, in a study of the relation of otolaryngology to general medicine, the subject is much too important not to warrant some consideration. Both the clinical and the laboratory evidence at hand is sufficiently definite to permit the statement that the following acute localized infectious processes may be due to haematogenous metastasis from a primary focalized infection: Acute endocarditis, acute pericarditis, acute pleuritis, acute peritonitis, acute infectious arthritis, acute tenovaginitis, acute bursitis, erythema nodosum, purpura hemorrhagica, acute bronchopneumonia, acute cholecystitis, acute appendicitis, acute enteritis, acute colitis, acute gastric and duodenal ulcer, acute conjunctivitis, acute keratitis, acute iritis, acute iridocyclitis, acute uveitis, acute episcleritis, acute choroiditis, acute retinitis, acute optic neuritis, acute thyroiditis.⁵ I believe the subject of focal infection at this time may be concluded with the mere recitation of this impressive array of possibilities.

The relation of oto-laryngology to neurology is most interesting. Sometime ago, in conjunction with Dr. Harry Friedenwald, I reported that involvement of all of the cranial nerves except the eleventh and twelfth had been found in connection with cases of purulent otitis media.⁶ One might go so far as to say no investigation of vertigo is complete without an examination of the internal ear. The specific reactions which follow the stimulation of the labyrinth by means of the Barany tests furnish a solid basis upon which involvement of the labyrinth, the tract to the brain centers,

and the centers themselves may be included or excluded as a cause of the disturbance.

Optic neuritis as a complication of infection in the posterior ethmoid and sphenoid sinuses has attracted a great deal of attention since the relation of the optic nerve to these sinuses has been clearly demonstrated, especially by Onodi and Loeb. Even so conservative an author as Shambaugh⁷ says that, when such a serious condition as permanent blindness is threatened, the rhinologist should be ready to carry out an operation for draining the posterior ethmoid, whenever the ophthalmologist seems satisfied that there is no other likely cause for the nerve involvement; *even though the nasal findings are negative*. Here again the course of procedure is determined not by the findings in one special field alone, but by the proper evaluation of all of the results of the inquiry.

Tumors of the nasopharynx, which incidentally are not so rare as commonly thought, may cause neurological disturbances involving the fifth, sixth and seventh nerves.

In conclusion, while I fully realize that this discussion of the relation of oto-laryngology to general medicine is by no means complete or exhaustive, I believe that enough has been said to show that the inter-dependence of the oto-laryngologist and the internist is so very great that the best team work of both is necessary if the best results are to be obtained.

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THE RELATIONSHIP OF THE ORTHOPEDIST TO MEDICINE.*

By PAUL C. COLONNA, M. D., F. A. C. S., New York.

From an extremely early period in the history of medicine there have been those interested primarily in the mechanical framework

of the human body. We know that as early as 600 B. C. the Japanese physicians practiced massage and Hippocrates several centuries later left careful notes on the proper splinting of fractures and the protection of inflamed joints. We may read his description of acquired and congenital club foot, of congenital dislocation of the hip and lateral curvature of the spine, all of which make us regard Hippocrates as the father of orthopedic surgery as well as of all branches of medicine.

Numerous well-known names appear in every period and era of medical history who have by their contributions added to the surgery of the bones and joints, but we can only mention a few: Ambrose Paré (1510-1590) who in 1536 was the first to excise the elbow, and who also described fracture of the neck of the femur and methods for reducing dislocations; Jean Louis Petit (1674-1750) with his practical ideas on the treatment of osteomyelitis; John Hunter (1728-1793) who contributed so much on the growth and repair of bone both in its normal and diseased state; William John Little (1810-1894) who gave the first description of infantile spastic palsy, since called Little's Disease, and who also founded the first British orthopedic hospital for the relief of the maimed and deformed poor; Hugh Owen Thomas (1834-1891) descended from a long line of bone-setters and himself a genius in the treatment of injuries and diseases of the bones and joints by either mechanical support or surgery. Many other names should, of course, be added to this list but time permits only one other, that of Nicolas Andry (1658-1742) whose two volume work "Orthopedia," describing his methods for preventing and correcting deformities in children, was published in 1741 when he was 83 years of age. His observations and methods of treatment are startlingly modern and he has been truly called the founder of modern orthopedic surgery. The boundary of the specialty has, however, extended beyond preventing and correcting deformities of children and recently was described by Sir Arthur Keith as follows: "A specialty to effect the repair of the mechanical framework of the human body by all operations and appliances which have that end in view."

To estimate the value of orthopedic surgery to medicine we should consider not only the historical background but mention some of the causes underlying the beginning of

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body deformity. In the evolution of mankind certain skeletal weaknesses and characteristics have been evolved and acquired so that a study of the normal becomes especially necessary in order that one may prevent and correct deformity resulting from injury or disease. To this end the study of the so-called functional type of deformity is receiving increasing attention. We know that a tendency toward muscle imbalance may be inherent in certain individuals but the development of proper balance and posture will usually reduce or cure these frequently seen functional deformities such as lateral curvature of the spine, weak or flat feet, round shoulders and certain cases of hollow back. Many of these patients have developed their deformities from poor posture assumed while sitting or walking, those of lateral curvature and round shoulders being far more commonly observed among girls than boys. The school child who insists on carrying heavy books on one arm, the child who constantly slumps in his chair, the worker sitting improperly at desk or work bench, the improperly nourished or underdeveloped child are all possible candidates for postural deformities. The presence of a high shoulder, prominent hip or shoulder blade, noted during a general examination, are usually only outward manifestations of a condition that indicates beginning deformity of the vertebrae themselves and this will in turn affect the normal expansion of the lungs, the position and function of both the heart and abdominal organs. Therefore, these deformities of the trunk are of sufficient gravity to demand careful attention and supervision until their arrest or cure can be assured.

One of the principal causes responsible for a number of young cripples each year is the tubercle bacillus. The bacillus usually lodges in the ends of the long bones or the anterior portion of the bodies of the vertebrae, causing softening with bone and joint destruction, and giving rise to pain, limitation of normal motion, or gross deformity with complete loss of function. Being a generalized disease, an out-of-town hospital with sun treatment, careful attention to recumbency, fixation and traction seems at present to offer with most children the optimum degree of benefit, while with the adult, who is a wage earner, time is a more important element and radical operations should not be delayed.

Another condition in which the orthopedist

is particularly interested is in the prevention, care and correction of deformity resulting from infantile paralysis. Recently, extremely satisfactory results have been reported from the use of convalescent serum when employed in the early stages of this disease but it is important and necessary that the serum be administered before the onset of muscular paralysis. Moreover, in the acute stage the medical and orthopedic care should go hand in hand in order that the weakened muscles may be supported, in order that massage may be delayed to the sensitive muscle groups and that the patient may be protected against too early weight bearing. By the wearing of well fitting braces, by operations for the stabilization of weight bearing joints, by transplantation of active muscles to partly compensate for the paralyzed ones, by tenotomies and stretchings of contracted tissues have many of these cripples been made into self-supporting citizens.

The interest and opportunity of the orthopedic surgeon in the treatment of fractures was greatly increased by the World War and today, according to a recent survey conducted by the Chairman of the Fracture Committee of the American College of Surgeons, it was found that more and more interest was being evinced by the orthopedic surgeon and less and less by the general surgeon on this subject. This survey also vigorously condemned the wide open hospital as being conducive to sound work in fracture surgery and found that the centers having a teaching hospital, a moderately controlled or closed hospital, were doing the best work. One of the results of this survey was the appointment of some twenty regional committees, composed of surgeons interested and trained in fracture treatment, their purpose being to organize and disseminate information regarding fracture problems.

The relationship and responsibility of orthopedic surgery to medicine would be incomplete if attention were focused only on the historical and surgical aspects of the specialty in its treatment of the cripple. The social problems connected with the care and cure of this type of indigent patient have only within a comparatively brief period received the attention of the medical profession. Today private philanthropy and public support are vying with one another in this work. An increasing number of states are carefully studying their indigent cripple problem and assum-

ing the responsibility for their care by using their Boards of Health, Boards of Education or county organizations to carry out a survey and making them responsible for these patients to receive orthopedic care in municipal and special hospitals or convalescent homes. The States of Ohio, Minnesota, Iowa, and New York have especially been at the forefront in caring for their cripples, New York State being the first to erect a hospital school for crippled children. Therefore the problem has enlarged beyond medical, surgical and hospital phases, important as they are, to include cooperative plans for their education, vocational training, guidance and employment. As Edgar F. Allen at the World Conference on the Cripple recently held in Switzerland has said: "The good that has been done in the United States and Canada by Rotarians, Shriners and many other similar civic and fraternal organizations cannot be estimated." It is only by the cooperation and organization of all efforts engaged upon this problem that the cripple can be transformed into a productive, self-supporting and satisfied citizen.

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BROMIDE PSYCHOSIS OR BROMIDE INTOXICATION.*

By MALLORY S. ANDREWS, M. D., Norfolk, Va.

The purpose of this paper is not to offer anything new and no claim for originality is made. I have drawn freely from the reports and experiences of others. It is my belief that psychosis as a result of bromide ingestion occurs more frequently than the literature would lead us to believe, and it is as frequently undiagnosed.

The general practitioner should be on the watch for patients with bromide intoxication symptoms, because the clinical picture varies, and he is often the first to see these cases. Neurological symptoms may occur, which, together with euphoria, dullness and defective memory, suggests the clinical picture of general paralysis of the insane; others show delirious states, and some finally show an admixture of bromide intoxication symptoms of the more fundamental disease.

A review of the literature from 1875, on this subject, shows a spasmodic case here and there, the symptoms of which, in the light of

our present knowledge and the fact that the psychosis developed following the ingestion of bromides and disappeared with its withdrawal, would lead us to believe that the etiology was correct.

One of the earliest reported cases occurred in the family of an English apothecary in the late 80's, the servant having filled the salt cellars from a barrel containing sodium bromide, which was next to a barrel of sodium chloride. The entire family developed a toxic psychosis that cleared up after several weeks.

In 1896, the A. M. A. meeting in Chicago held a symposium on the proprietary preparation Bromidia (which is composed chiefly of chloral hydrate and sodium bromide), condemning its use because it is thought to be habit forming, and because of toxic-psychosis that sometimes followed its use.

When bromides are introduced into the body, their excretion starts rapidly, but proceeds slowly, so slowly, in fact, that (20-30) days after medication has been stopped, the excretion of bromide is not completed. Hence, a retention of bromides takes place, which is due to the fact that bromides in part replace chlorides. According to Bernouille, a replacement of more than 40 per cent of the chlorides of the blood by bromine is fatal. Wyss, in 1906, found the largest quantity of bromide, after ingestion, in the blood, and almost exclusively in the serum.

This fact led Otto Wuth, of the Johns Hopkins Hospital, in 1927, to devise a method that would at the same time be simple and practical for the detection of the bromides in the blood. The technic of his method can be carried out in any physician's office. 10 c.c. of blood is obtained and allowed to clot. To 2 c.c. of serum, 4 c.c. of distilled water and 1.2 c.c. of 20 per cent trichloroacetic acid are added. Allow to stand one-half hour, filter, take 1 c.c. of filtrate and add 0.2 c.c. of 0.5 per cent gold chloride solution, and compare in the comparative with standards made of known quantity of bromide and gold chloride. Wuth has found that 150 mgs. of bromide per 100 c.c. of blood is the toxic limit, and above this point patients are apt to show symptoms of bromide intoxication. Knowing that bromides replace chlorides in the body, this readily suggests a method of treatment—that is, the administration of sodium chloride

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either subcutaneously, intravenously, or by mouth, excluding, of course, the bromides. Bromide intoxication will not occur if sodium chloride is ingested in sufficient quantity to take care of body metabolism (6-10 grains per day).

The mental manifestations of bromide intoxication are characterized by psychic deterioration, in which the patient is dull, stupid and apathetic. The attention and retention, as well as the judgment and the association of ideas become greatly impaired. A typical delirium often develops. Speech may be disturbed. Active hallucinations, delusions and dream-like experiences are prominent, and are mostly of a persecutory and terrifying nature. The mood is variable, usually depressed, but may be euphoric (like a case I will report). If the attention can be gained, the response is often good.

The neurological manifestations may be ataxia, tendon reflex changes—exaggerated or diminished—unequal, irregular ankle clonus, pseudo ankle clonus, Babinski's, tremors of hands, face, tongue, and other parts. The pupils are frequently dilated, but may be contracted, and are often irregular and unequal. Absent or diminished gag reflex was seen in all of my cases. Most always the light reflex is either sluggish or absent. Speech may be thick and indistinct. Sensory anesthesia, paresthesias and hyperesthesias may occur. The general excitability of the nervous system is greatly lowered. There may be habitual constipation, poor appetite, even nausea and vomiting. There may likewise be circulatory disturbances evidenced by weakness and lowering of tension, G. U. disturbances, retention or diminution of urine, menstrual irregularities, and lowering of sexual function.

Case 1.—Mrs. A. G., age 39, housewife, had been taking bromides for inability to sleep for over two months. Admitted to hospital in an acute delirious state. She tore the uniform off a nurse as soon as she entered her room. Finally she had to be put in a strait jacket. Patient was incontinent of urine and feces. Blood was obtained with difficulty and routine examinations made, which were negative, including Wassermann. Bromides were 400 mgs. per 100 c.c. of blood. Patient was put in salt bath that was kept at body tem-

perature for twenty-four hours. After this, saline was given by rectum and subcutaneously. At the end of a week, bromides in blood had fallen to within normal limits and she was entirely rational. Control over urination and defecation returned.

Case 2.—Mr. T. C., age 57, engaged in lumber business, entered hospital complaining of shortness of breath on exertion, swelling of ankles, confusion, and speech difficulty. Impaired memory. Six weeks before admission he had a hemorrhage from the mouth, the origin of which could not be discovered. His physician put him on treatment (bromides). The patient had always been a very even tempered, jovial person, but, following the hemorrhage, he began to feel depressed, had difficulty in expressing himself, frequently using wrong words. Lately he could not remember the names of his children at times. Physical examination revealed the following positive findings: Heart slightly enlarged to left; systolic murmur at apex; blood pressure 185/110; radial arteries slightly thickened; pulse 80, regular in force and rhythm; blood examination negative—including Wassermann—consisted of routine blood counts, N. P. N., and sugar. Urine, slight trace albumin; phenolsulphonaphthalein 70 per cent in two hours. Ophthalmoscopic examination showed early arteriosclerotic retinitis. The first impression, taking in account hypertension, was that the case was one of cerebral arteriosclerosis; but the confusion and speech difficulty and memory defect were out of proportion to the general picture and too rapid in onset, and some toxic influence was suspected. The blood bromides were 200; a week later this had fallen to 160, and when discharged, a week later, it had gone down to 110 mgs. per 100 c.c. His entire personality had changed; he had no difficulty in speech or memory. The final diagnosis made was (1) bromidism, (2) arteriosclerosis generalized, (3) cardiac hypertrophy with hypertension.

Case 3.—Mr. A. B., age 54, farmer and storekeeper, admitted on stretcher. Disoriented as to time, place and person. Euphoric. Insisted that he was selling onion seed to the Prince of Wales. Carried on conversation with people not present. His history, obtained from his wife, was very interesting. He had had pneumonia five months previous to ad-

mission, lasting two weeks. His physician prescribed bromides for insomnia, following his illness. Ten days later he became moderately delirious. This kept up for several weeks when his physician went hunting and the prescription for bromides gave out; the delirious state then improved. On return of his physician he was put back on bromides and he drifted on in this condition until brought to the hospital. Patient had no control over defecation and was incontinent of urine. Temperature was normal. All deep reflexes were hyperactive, while the corneal and gag reflexes were absent. Babinski negative. He was known to have had 4 plus Wassermann about ten years previous to admission, but it was negative in this examination. Bromide rash was present. Urine showed slight trace of albumin. Spinal fluid examination was negative, as was routine blood examination. Bromides in blood were 325 mgs. per 100 c.c. On salt by mouth and rectum they fell in eight days to 110 mgs. per 100 c.c., and in a week later to 60 mgs. per 100 c.c. He became entirely rational; control over defecation and urination returned.

Case 4.—Mrs. H., age 40, had her left kidney removed by Dr. R. L. Payne, and returned several months later to St. Vincent's Hospital, complaining of burning sensation in bladder. She received cystoscopic treatments for this. Patient was very nervous and bromides were prescribed, 15 grains triple bromides every four hours. This was discontinued after four days. Five days later she became delirious, disoriented, with constant murmuring and tremor of entire body. Blood bromides were found to be 250 mgs. per 100 c.c. in Dr. W. B. Martin's laboratory. Saline was given subcutaneously and by rectum. She became entirely rational after a few days' treatment. Her nervousness, however, still persisted. This case is interesting because delirium came on five days after discontinuing bromides by mouth, showing the slow rate of excretion.

Case 5.—Mrs. M. C., age 58, has had three previous nervous breakdowns. Lately she had been given bromides because of inability to sleep. When first seen, she complained that she heard voices saying she was going to die. It took considerable persuasion to convince her that I had not come to chloroform her. She complained of something being inside her

stomach, eating her away. She was afraid to go to sleep for fear that she would not awaken. There were no neurological signs. She was well oriented and insisted that she was not crazy. Patient was sent to hospital and several days later bromides in blood were found to be 210 mgs. per 100 c.c. She was given buttermilk with a teaspoonful of salt, t. i. d. A week later she had no auditory hallucinations, slept well, and said she felt like a new person.

SUMMARY.

A belief is expressed that bromide intoxication symptoms occur more often than they are diagnosed.

A simple, practical method, devised by Wuth, of determining quantitatively the bromides in blood was discussed.

The treatment of this condition with sodium chloride and the elimination of bromides was mentioned.

The neurological and mental symptoms are protean in their manifestations.

A case showing the acute maniacal type of delirium was reported.

A case showing the mildness of mental type of reaction superimposed on arteriosclerosis with hypertension was discussed.

A case showing euphoric type of reaction was presented.

A case occurring in a nervous patient receiving cystoscopic treatments with an idiosyncrasy for bromides was mentioned.

Finally, a case with schizophrenic type of reaction, auditory hallucinations, fear of being gassed, suspicious of food, etc., was described. The mental reaction in all of these cases improved or returned to an approximation of the normal following treatment, viz., (1) withdrawal of bromides, and (2) administration of sodium chloride.

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Medical Arts Building.

WHAT HYPERTENSION MEANS IN TERMS OF VASCULAR FUNCTION.*

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University.

Arterial hypertension has its great practical interest because today, in this country at least, it takes first place among the causes of human morbidity and mortality. It might be safe to predict that this interest will continue until medical science is able to provide a means of control for high pressure as surely effective as those which it has found for diabetes mellitus and pernicious anemia. Unlike these two conditions, however, hypertension presents problems in prevention and treatment which must be met not only on the purely somatic level—to be dealt with in terms of units of insulin or liver extract,—but which also, it is clear, involve neurologic and psychic factors and integrations. In other words, a balanced mind and a stable nervous system must be present to preserve and regulate the normal vasomotor functions of a sound body.

Of these manifold aspects of hypertension, I wish to limit my discussion today to three: first, a working definition of hypertension; second, the fundamental role of the arterioles in producing and maintaining high pressure; and, finally, the influence these facts have on our attitude toward the hypertensive patient and his management.

In the first place, what are the normal limits of blood pressure?

For an answer to this question, we may turn to the statistics of life insurance medicine. The blood pressure readings, compiled by Hunter, of a quarter million North Americans, show that from an average systolic and diastolic tension of 120/80 at the age of twenty years, the level increases to 135/89 at the age of sixty years. This is a rise, for each five year period, of approximately 2 mm. Hg. in systolic pressure and of 1 mm. in diastolic and pulse pressures.

Within these narrow bounds are the physiologic limits of arterial tension!

What happens when the elevation of pressure exceeds, consistently, the age standard?

In a series of 4,165 persons who had hypertension without other serious physical impairment, Fisher demonstrated that when the pressure was 10 to 14 mm. above the standard, the

extra mortality—the number of deaths in this group of people beyond normal experience and expectation—was 36.1 per cent. This added mortality became 83.8 per cent when the systolic pressure exceeded the average for age by 15 to 24 mm.; it rose to 314.7 per cent beyond normal when the pressure was 50 mm. or more above the standard. Such facts, and the data of others which is equally impressive, reveal the fallacy of empirical and arbitrarily selected standards of blood pressure in clinical medicine, and explain the constant lowering of that level—now placed at 140 to 150 mm. Hg. according to age—which means the beginnings of hypertension and its sequelae.

Now what, to come to our second point, is going on in the body to bring about this rise in pressure, which, however variable and intermittent it may be at the outset, becomes, as we follow our patient, progressively higher and more persistent? Is it the kidney? In the earlier stages of hypertension, renal function is not only unimpaired but may be actually supernormal, while we have all been disappointed in the hope of finding pressor metabolites retained in the blood. Is it the heart? In uncomplicated hypertension, competent observers find neither the velocity nor the minute-volume of the blood put out by the heart to be abnormally increased. Is it arteriosclerosis? This is both absent in extreme hypertension, and excessive where hypertension has never existed.

But if, in a man with hypertension, we compare the pressure of 200 mm. Hg. in the brachial artery with the simultaneous tension of 20 mm. in a finger capillary, we get a clue to arteriolar activity and the “throttling” effect of contraction in these terminal vessels. This functional state is further shown by the vascular constriction to be seen under the capillary microscope, by the pallor of the patient in the throes of the paroxysmal hypertension of the suprarenal syndrome, or by the spasm which may be observed in the retinal arterioles during acute hypertension induced in the dog by guanidine, or appearing in the woman with severe eclampsia.

With few exceptions—such as aortic insufficiency and thyrotoxicosis where increased cardiac output raises systolic pressure,—hypertension begins as a manifestation of abnormal functional activity of the arteriolar smooth muscle.

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Finally, this increased functional activity of the smaller vessels leads directly and inevitably to structural changes. The smooth muscle of the arteriole hypertrophies, and the intima proliferates. In the retinal vessels the progress of hypertensive vascular disease may be studied directly; biopsy reveals these changes in the arterioles of the pectoralis major; at necropsy they are found in many organs throughout the body.

Unfortunately, the structural reactions to vascular strain do not stop short at compensation, but go on, if the stimulus persists, to degeneration and degradation of tissue, and eventually the weakest spot, so often a coronary or cerebral vessel, gives way.

Functional hypertension, labile, reversible, susceptible of some degree of therapeutic control, is converted into anatomic hypertension, with loss of vascular reactivity and the necessity thenceforth of maintaining high pressure if blood sufficient for their nutrition is to reach the various body tissues.

The treatment of the patient with hypertension, it follows, is most effective when the blood pressure is variable, least hopeful after fixation has occurred, and perhaps inadvisable, as far as attempts to reduce pressure are concerned, when structural disease is far advanced. "Setting" of the high pressure, however, is rarely complete, and intervention is never without some promise of relieving symptoms, if not of staying the progress of the disease. But early in the course of hypertension, when it is yet a functional malady, should be the physician's great opportunity.

It is possible, I believe, to warn and advise a patient with early hypertension without making him neurotic; to suggest the virtues of philosophic detachment and mental relaxation; to improve habits of hygiene, such as those of work, sleep, exercise and play; to lessen the "metabolic load" by sensible selection, quite as much as by restriction, of diet.

In addition, I would advocate, as far as is now possible, a specific or substitutive therapy, in order to combat the cellular alterations which underlie vasoconstriction, and to promote dilatation of the terminal stream bed. Limitation of sodium chloride is robbed of much of its hardship by its replacement with sodium malate, and the judicious use of bromide and iodide, nitrite and sulphocyanate offers opportunity for substitutions which

often bring lessening of vascular constriction, improvement of peripheral circulation, lowering of blood pressure and relief of symptoms.

Such measures are at least first steps in a therapeutics which aims to be more than what President Hoover recently described as "the kindly art of making the patient feel as hopeful and comfortable as possible while he was dying of the disease, the origin and treatment of which was as yet undiscovered," because they are based, I believe, on sound physiological evidence that disturbed vascular function is the primary mechanism in hypertension.

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CARCINOMA OF THE PROSTATE.*

By A. A. CREECY, M. D., Newport News, Va.

Cancer of the prostate until recently was considered as a rather infrequent disease. Unfortunately, the converse of this is true and its occurrence as a urological problem is certainly a more common one than is frequently supposed. There are several points associated with carcinoma of the prostate which are very applicable to the modern conception of control of cancer by early recognition, diagnosis and treatment. The suffering experienced by those patients dying with late, far advanced carcinoma of the prostate is probably not exceeded in any other form of cancer. Localized pain, urinary retention or incontinence, frequency, dysuria, and very often an open operative sinus continually giving passage to the outflow of foul, infected urine, along with generalized pain from metastatic lesions, especially to the osseous system, tend to make the last days of these unfortunate individuals about as miserable as can be experienced. It is fortunate that the mucosa of the rectum is quite resistant to invasion and that of the urethra and bladder slightly less immune. On

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the other hand the disease is not one which manifests itself early and it is therefore the serious problem of the physician to discover its presence as soon as possible and to have always in mind the possibility of its occurrence in all cases of prostatic obstruction and especially those between the sixtieth and seventieth years as statistics very clearly show that it is in this decade of life that carcinoma of the prostate is most prevalent.

ETIOLOGY: There has been no progress in specifying factors to which the formation of carcinoma in the prostate can be attributed. Gonorrhoea and prostatitis of non-specific origin apparently do not play an important part. Even the predilection for the origin of carcinoma and of benign hypertrophy is in different portions of the gland, for the former usually begins in the posterior lobe while the latter has origin in the submucous or periurethral glands and cannot be considered as playing an important part in the etiology of the disease.

The frequency of the occurrence of the disease is well established. Records in several large clinics show that over 20 per cent of all cases presenting with symptoms of prostatic obstruction have carcinoma of the prostate. The largest percentage of cases occurs in the seventh decade with the frequency diminishing but second in the eighth decade followed closely by occurrence in the sixth decade. The fact that one in every group of five men presenting with symptoms of prostatic obstruction has cancer must of necessity place the physician on guard in making his diagnosis and deciding whether or not the patient can with reasonable safety resort to catheter life.

As has been stated the growth of the cancer is well resisted by both the rectal and bladder mucosa so that the most favorable results are obtained in those cases which are encountered early. Just how long the carcinoma has been progressing is impossible to tell but it is assumed that its symptoms are manifested a long while after its incipency. This is based on records obtained from the time of onset of symptoms to lethal exodus which show the disease to be a slowly progressive one. Bumpus has shown that the average survival in seventy-one cases without metastases which were not treated, was 3.4 years. This includes only that time from the onset of symptoms and does not consider the length of time the growth required before manifesting itself. I

have recently observed a case with a history of prostatic obstruction of over five years' duration who was refused operation several times because of a marked cardiac arrhythmia. No evidence of carcinoma could be felt but section of the gland following operation which was forced upon us by acute retention revealed it to be carcinoma. He has been entirely healed with no evidence of local recurrence or metastases for the short period of five months but it is probable that the lesion had been present a good while and illustrates the slowness of its growth.

SYMPTOMATOLOGY: The cardinal symptoms are frequency of urination, difficulty of urination, pain, retention and hematuria. Two or all of these may occur concurrently. Frequency is the most common complaint with difficulty and pain following closely in order. Hematuria, contrary to expectation, is not so common, nor is complete retention. Another but rather rare symptom is occasionally seen in the presence of a lymph node enlarging in some remote portion of the body which may be a signal node of prostatic cancer. Local and referred pain is more common in carcinoma than in benign hypertrophy and should always make one suspicious of the former. With cancer of the prostate of long duration, rectal pain and pressure of rather severe intensity is frequently encountered.

PATHOLOGY: Perhaps one reason for the apparent increase in cancer of the prostate is the more careful macroscopic and microscopic examinations which necessarily result in more accurate diagnoses. A great many cases of carcinoma are found by careful serial section of the gland which heretofore would probably have been termed a benign hypertrophy or small fibrous gland. One case recently seen at the Buxton Hospital demonstrated this fact very nicely. A patient, sixty-six years of age, who entered the hospital with complete retention was relieved uneventfully of his prostate gland and recovered fully. On admission the gland was twice normal size, normal in consistency, and no nodules were palpable so that the pre-operative diagnosis was benign hypertrophy. Repeated serial section through the entire gland by Dr. M. B. Beecroft disclosed a very small circular area less than 1 cm. in diameter just beneath the capsule. The microscopic report of this area was as follows: "Just beneath the capsule at one point several large

accumulations of atypical epithelial cells are noted which tend to assume a glandular appearance but which invade the tissue in an irregular manner. These cells vary in size and shape and have a granular cytoplasm. Many mitotic figures are noted. *Diagnosis:* Carcinoma of Prostate." This demonstrates the value of close inspection of all tissue as it indicates what further line of treatment must be carried out and also furnishes a basis for a more accurate prognosis to the patient's family.

Different forms of prostatic cancer give varied clinical courses. Ewing divides them into three groups.

(1) Adenocarcinoma arising on chronic prostatitis usually gives symptoms of chronic hypertrophy and may be discovered only in the extirpated gland.

(2) Adenocarcinoma arising on hypertrophy gives a large, hard, nodular prostate, which eventually extends locally and finally generalizes.

(3) Fully developed carcinoma, alveolar or diffuse, may fail to cause much enlargement, symptoms are moderate and metastases may occur early.

There is some difference of opinion as to the structural changes. Young refers to all carcinoma of the prostate as being adenocarcinomatous in type. Ewing refers to carcinoma of the prostate as malignant epithelial tumors in three structural types: adenoma, adenocarcinoma and carcinoma, and also recognizes a rare form of squamous epithelioma, as it has been demonstrated that in the upper anterior portions of the fetal prostate the ducts are lined with squamous cell epithelium up to the third month of life or later. Schmidt has found extensive squamous epithelial metaplasia in chronic suppurative prostatitis. One of our recent cases was probably of this type as the gland at operation was found to be abscised, generally necrotic and had to be removed piecemeal. Microscopic report by Dr. M. B. Beecroft showed it to be "made up of atypical epithelial cells, which appear to be of the squamous variety. They vary in size and shape, many being extremely large. Many mitotic figures are noted. A small amount of supporting fibrous tissue is present." The *pathological diagnosis* was, "Prostate gland—Carcinoma (squamous)."

The rectal and bladder mucosa are resistant

to prostatic carcinoma. Local enlargement and spread usually occurs slowly under the trigone and in the seminal vesicles. General metastases are equally tardy in appearance. The skeletal system is most frequently attacked and Kaufman estimates that seventy per cent of all prostatic cancers cause bony metastases. The spine and bony pelvis are usually first attacked and, once started, diffusion is somewhat rapid and widespread. Metastasis to other organs is more rarely encountered.

DIAGNOSIS: This is most important and the principal recourse, rectal examination, is within the limits of every physician's ability. The most characteristic finding by rectal examination is hardness or marked induration, although occasionally a soft carcinoma may be encountered. An early case might manifest itself in the form of a nodule much more indurated than the surrounding portion of the gland. Extension to the seminal vesicles, and intervesicular angle is common. The typical case is fixed, stony hard, irregular and nodular. Palpation of the posterior urethra through the rectum with the cystoscope or sound in the bladder often reveals more induration and greater distance between the two than is found in benign hypertrophy. Presence of the latter should never exclude carcinoma in making a diagnosis. The cystoscope is of little aid but helps to eliminate other conditions. All suspected cases of carcinoma of the prostate should be given the advantage of radiographs of the vertebrae, pelvis and lungs. The disease should be suspected in all males over fifty years with symptoms of prostatic obstruction.

TREATMENT: Treatment is of course varied and depends to a great extent on the duration, extensiveness, and symptomatology of the disease but in general it can be divided into operative, radiation, or a combination of both. If the case is diagnosed early before extension either locally or by metastases has been marked, Young advocates his radical operation by which the entire gland, both seminal vesicles, the prostatic urethra and part of the trigone are removed following which the stump of the membranous urethra is anastomosed to the remaining portion of the bladder. Incontinence is rare following this if the nerve supply of the anterior wall and pelvic fascia is not sacrificed. Others prefer suprapubic enucleation followed by radium implantation through the suprapubic opening. If the dis-

ease is more extensive beneficial results can be obtained by the use of radium in different methods of application. This is especially true for relief of hematuria and deep-seated pain. Progress along these lines has been very satisfactory within recent years. By careful selection of filters and the judicious selection of appropriate sites for the application of radium, many of the disagreeable after effects have been eliminated while still obtaining a maximum regression of the carcinoma. Application may be made and the radium held in situ by special instruments both in the rectum and urethra. Probably one of the most satisfactory methods is a combination of radium and operation in which the prostate gland is exposed through the perineum and small gold tubes of emanation are implanted 1 cm. apart throughout the tumor mass. Barringer has treated far advanced cases with long radium needles thrust into the gland directly through the perineum. Most of these cases receive definite relief of symptoms under radium therapy properly handled and it is possible that a few cases have been cured. Deep X-ray is used in conjunction with radium and seems to produce better results than radium alone.

CONCLUSIONS: 1. Carcinoma of the prostate occurs in over twenty per cent of all cases of prostatic obstruction and is more common than usually supposed.

2. It is most frequently seen between sixty and seventy years of age and the rate of growth is slow as is evidenced by the duration of life after symptoms appear.

3. Symptoms are not diagnostic but are sufficient to direct attention to the prostate.

4. All removed glands should be examined carefully and serial sections should be made.

5. The most valuable diagnostic aid is rectal examination which, unfortunately, is too frequently overlooked.

6. Treatment during past few years has been progressively improved with new conceptions of radium and operative procedures. Cures are infrequent but palliation is almost certain.

Elizabeth Buxton Hospital.

Sittin' down and wishin'
Doesn't change your fate;
The Lord provides the fishin',
You must dig the bait.

—Selected.

TEMPORARY PHRENIC INTERRUPTION EARLY IN MINIMAL OR MODERATELY- ADVANCED PULMONARY TUBERCU- LOSIS.

By S. EDWIN HUGHES, JR., M. D., Monrovia, Calif.

During the past few years much has been said and written regarding the use of surgery in the treatment of far-advanced pulmonary tuberculosis but surgery in minimal or moderately-advanced tuberculosis not only has not been advocated but has been frowned upon and condemned by many men who are considered authorities on the subject. It is the purpose of this paper to show the plausibility and advisability of using a temporary phrenic block early in certain cases of minimal or moderately-advanced tuberculosis. In suggesting such a radical departure from the accepted scheme of treatment, much adverse criticism is to be expected but we feel sure this criticism will give rise to a discussion that will react favorably toward the idea herein advocated.

While urging the adoption of a temporary phrenic interruption in early or moderately-advanced active tuberculosis, we are not unmindful of the good results following phrenico-coaxialysis or avulsion of the phrenic nerve in far-advanced tuberculosis under certain conditions. We feel that it should be done as a routine preparatory measure in all theraco-plasties. It not only gives relief from the up and down, piston-like motion of the diaphragm, but it gives the surgeon an insight of no mean value as to the reaction of the patient to surgical procedure and acts as a barometer in indicating the ability of the better lung to carry on under its increased burden. In cases where there is more or less cardiac embarrassment, due to adhesions between the diaphragm and pericardium or to displacement of the heart and mediastinum as a result of contraction of the lung in old fibroid tuberculosis and where other surgery is contraindicated, a very comforting measure of relief may be obtained by the relaxation of the diaphragm following avulsion of the phrenic nerve. The decrease in the size of cavities, regardless of their location in the lung, the decrease in cough and sputum and the drop in temperature add to our conviction that permanent paralysis of the diaphragm has a very definite and permanent place in the treatment of far-advanced pulmonary tuberculosis.

The physiology of the chest and of respira-

tion is too well known to be discussed at great length but a few points will be of value in presenting this subject. Normally, the intrapleural pressure is lower than atmospheric pressure and is called negative pressure, while within the lungs we find atmospheric pressure. Because of the greater pressure within the lungs and their elasticity, they are forced to fill all available space in the thoracic cavity. From this we see that the lungs become larger and smaller depending on changes in the size of the thoracic cavity. During inspiration, the thoracic cavity becomes larger and during expiration, smaller, and the size of the lungs changes correspondingly. These changes are brought about by contraction of the diaphragm and, through the action of the muscles of respiration, elevation of the ribs. In an adult, under normal conditions, this respiratory cycle takes place at the rate of 18 per minute. At this rate we find that the average adult, under ordinary conditions, uses his lungs, through expansion and contraction, more than 25,000 times a day. When we think of this enormous figure we are not surprised at the difficulty often encountered in healing pulmonary tuberculosis.

The basic principles involved in the treatment of tuberculosis have undergone little or no change and we can safely say that increasing the individual resistance to the disease and bringing about functional rest of the diseased part are the most important factors. Rest is the factor over which we have the most control and it is the keystone of successful treatment. The more completely it can be achieved, the better is the result.

Nature has led the way in making us realize the importance of rest. In many persons suffering from chronic tuberculosis we see a flattening of the chest, retraction of the clavicle and soft tissues and, due to increased obliquity of the ribs, a narrowing of the chest; all efforts on the part of Nature to bring about functional rest of the diseased lung. Following the example of Nature, man has made great progress in this field. As early as 1821, James Carson, an Englishman, was urging the production of artificial pneumothorax. He realized how great a bar to healing were the elasticity, condition of extension and constant movement of the lungs. Collapse of the lung would place the diseased part in a state of quiescence and eliminate much of the disturb-

ance from the respiratory movements. Many efforts have been made to bring about rest of the diseased lung and among these we may list certain postures, sand and shot bags, various devices for limiting the expansion of the chest and finally, surgery of the present day. In the final analysis, bed rest is really an effort to bring about functional rest of the diseased lung through decreasing the respiratory rate and diminishing the depth of inspiration.

Pulmonary tuberculosis is usually classified as minimal, moderately-advanced and far-advanced, depending on the extent of involvement. Sanatorium care, with the aid of surgery in certain cases, accomplishes much in a small percentage of the far-advanced cases, but we can expect our best results in those cases which we consider minimal or moderately-advanced and these cases should demand our greatest attention. Returning to our routine treatment as applied to these selected cases, we find that rest is the outstanding factor. The functional rest obtained from institutional treatment is very limited, at best, and in a large percentage of early cases is not sufficient to bring about a cure or an arrest of the disease. In those cases that do not improve under routine treatment, we have merely lost valuable time.

By producing a temporary phrenic interruption in minimal or moderately-advanced pulmonary tuberculosis in which the involvement is largely or entirely confined to one lung, we feel that we have a most valuable addition to the accepted treatment. As early as 1913 Schepelman suggested phrenicotomy in early tuberculosis and since that time it has received occasional mention but has not been strongly advocated.

We need not go into detail regarding the technique of the operation other than to mention the various ways in which the desired result can be obtained. Temporary interruption can be produced by: 1. Simple section of the nerve. 2. Section and immediate suture. 3. Intraneural injection of 70 per cent or of absolute alcohol. 4. Freezing of the nerve with ethyl chloride. 5. Crushing of the nerve. Personally, the latter method is preferable. At the time of operation, if a black silk suture is tied around the nerve, it may be easily located if, at a later date, we desire to do a phrenicoexairesis.

Following simple phrenicotomy, the diaphragm

ragm relaxes and this, combined with the pull exerted by the negative intra-thoracic pressure, causes it to rise in the thorax from 2 to 4 centimeters. This reduces the volume of a 2,400 cubic centimeter lung from 400 to 800 cubic centimeters and in a few cases, greater reductions have been reported. Due to the presence of the accessory phrenic and other accessory fibers, we cannot expect as great an elevation of the diaphragm as that obtained following a radical phrenicotomy. On the other hand, in early tuberculosis, the rise of the diaphragm is not prevented by pleural adhesions or an indurated, inelastic lung, as is so often the case in far-advanced tuberculosis or tuberculosis of long standing. After considering the results of many observers, we can safely say that, on an average, the diaphragm will resume its normal function in from four to six months.

Through elevation of the diaphragm, relaxation of the lung is produced and its volume reduced, thereby causing a certain amount of pulmonary rest. Added to this, the pumping action of the diaphragm is eliminated and this is the chief factor in resting the lung. By increasing the functional rest of the diseased lung, the time necessary to bring about an arrest of the disease will naturally be diminished.

In addition to the actual rest of the lung, certain other factors are to be considered. Since the movement of pulmonary lymph depends largely on respiratory movement, there is a diminished flow of toxin-laden lymph into the general circulation and of bacteria-laden lymph into uninfected portions of the lung. This tends not only to prevent spread of infection, but to improve the general condition of the patient. Pulmonary rest also tends to prevent spread of the disease by means of the bronchi during respiration. Cough and expectoration are made easier after paralysis of the diaphragm because with a collapsed diaphragm, the abdominal muscles, which play such an important part in forced expiration, are allowed to act more quickly and with greater force. Finally, a temporary phrenic block, through its beneficial effects, will have a distinct economic value by lessening the time necessary to bring about an arrest of the disease.

Simple phrenicotomy should be done before attempting artificial pneumothorax because, if successful, it will eliminate the necessity for

"refills" over a long period of time and at the same time will entail none of the many dangers and complications attendant upon induction of artificial pneumothorax. If the results obtained from temporary phrenic interruption are disappointing, we have lost nothing and can still fall back on artificial pneumothorax.

CONCLUSIONS

Temporary phrenic interruption should be done early on minimal or moderately-advanced cases of pulmonary tuberculosis in which the involvement is limited largely or entirely to one lung, because:

1. Increased functional rest of the diseased part will be produced.
2. Spread of the disease will be lessened.
3. Cough and expectoration will be made easier.
4. It will have a definite economic value.

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THE PROTOPLASMIC BLIGHT.*

By J. H. BELL, M. D., Colony, Va.
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I am glad of this opportunity to discuss for a few moments in a general way the problem of mental disease in its biological relation to the development of the species.

Modern theories of evolution teach us that life probably began as a unicellular organism, subsisting at the will of a creator in the warm marshes of a new world. As time elapsed, perhaps millions of years, these monocellular organisms, which had been capable of amoeba-like movement only, directed by the laws of evolution, began to split up into more complex multicellular structures, to develop definite stoma or mouths for feeding, to develop simple digestive organs, to take on definite shapes and certain appendages for locomotion which were best adapted to the media with which they were then concerned. In an aeon

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or two, perhaps, certain species began to be differentiated and thus there was developed the flying fish, which could travel in both air and water and is thought to have been the progenitor of bird-life upon the earth.

Other multicellular organisms, left in inland puddles by the receding marshes, began to adapt themselves to land-life, and so there came to pass the land lizard, the scorpion, and other four-footed crawling things that were both amphibious and earth-going. And from these early, simple structures of life, has sprung the vast variety of species which we have upon the earth today, the highest form of which is man.

For millions of years man has steadily progressed in intellectual capacity and the perfection of his social relationships, so that today it is a far cry from the modern, intellectual human being to the Neanderthal or Heidelberg man, whose physical form we are told was quite similar to our own, or the Cromagnon race from which we are said to be direct descendants. We are well aware of the fact that only by the most careful breeding in lower animal-life, can true types be maintained, and that if mongrelism slips in, it will soon make itself apparent in a deviation from the standard: a deviation that lowers the type and thwarts the purpose for which it is being bred.

It is a well established fact, and I believe is confidently accepted by most medical men, whether their work is largely concerned with mentally defective persons or not, that most epilepsy, feeble-mindedness, and insanity is of an inherited nature, and is being transmitted through blood lines from generation to generation in the medium of a defective germ-plasma, and it may be interesting to you to know, if you have not already learned this, that through the comparatively recent experiments of the biologists, Fere, Dyer, Smith, Ziegler, Stockard, Craig, and others, it has been proven beyond reasonable doubt that both toxic and traumatic factors may enter into the production of a defective germ-plasma in a normal person of normal antecedents: a germ-plasma capable of transmitting both defective physical characteristics and defective mental traits to succeeding generations.

The biological factors of racial degeneracy necessarily involved by the widespread dissemination of a great number of defective

people amongst the general population must certainly act to lower the general level of intelligence, as the ramification of transmitters is so extensive that it either touches or penetrates somewhere into the branches of nearly all large families. With these remote ramifications at this time, however, eugenics is not especially concerned, but its main effort should be directed toward an attempt to identify and bring under social control the potential members of such notoriously defective families as have become socially and economically inadequate: with such defective lines broken into, and with some results to show for its labors, eugenics may then fairly attack the more delicate problems which lie before it.

Professor Laughlin of the Eugenics Record Office, at Cold Spring Harbor, New York, an international authority on sociological statistics, has estimated that there is 1 feeble-minded person to every 200 in the United States—or more than 500,000; 1 epileptic to every 500—or about 200,000; and 1 insane person to every 350—or about 300,000. This estimate is based upon reports from various States in which careful census of their defective population have been made.

I apprehend that the situation in Virginia is not greatly different from that in other Commonwealths, and in estimating our population at about 2,500,000 we would, therefore, have in this State, according to modern criteria, about 12,500 people who are of sub-normal mentality; 5,000 confirmed epileptics; and 7,000 insane. Neither mental defectiveness nor epilepsy is in the main curable, and all that can be expected in the former is improvement in the moral and physical being, betterment of his economic efficiency by manual training, and the elimination to some extent of such conduct disorders as may have rendered the individual unacceptable to Society; in the latter only by prolonged institutional residence and subjection of the individual to a routine of treatment and living, can even amelioration of the seizures be obtained, and in many instances even this is impossible of accomplishment.

Out of a possible 24,500 feeble-minded, epileptic, and insane persons in this State today there are under institutional control at the State Colony for Epileptics and Feeble-

Minded, 496 of the first and 367 of the second; and at the State Hospitals for the insane approximately 6,000 are under custodial care and treatment.

The admission rate at the State Colony averages about twenty new cases per month, such vacancies being made possible by deaths in the institution and by the discharge and parole of sterilized defectives and epileptics. The total number of cases, therefore, in the institution in any one year would be about 1,100. With contemplated extension, which may be confidently expected in the next few years, the total number that can be cared for will be increased by about one-third, and even then we shall still be inadequate for the work that should be done.

In racial improvement by segregation and sterilization we should think in terms of centuries not years, as only by sustained and widespread effort, over long periods of time, can anything worthwhile be accomplished.

By the death rate amongst defective people and by extension of the procedure of sterilization to its extreme limit, it may not be unreasonable to expect that within a century the limitation of defective offspring may be made at least to keep pace with the birth rate, and if so, the proportion we now have in the general population may not be greatly increased. At least this is a hope to which one may laudably aspire, provided the State will use to the fullest extent all social forces, both of an official and a voluntary character, that are at its command.

I want to ask you to pause for a moment and pass with me into a realm of speculation, visualizing in your mind's eye, a world peopled by a race of degenerates, defectives, and insane, a world gone topsy-turvy, and sunk in the slough of despond, the great edifices of our present civilization are falling in decay, the arts and inventions are forgotten, the boulevards of our great cities have become waste places, and the countryside uncultivated is fast receding to an aboriginal jungle, all moral and social codes have long ago been discarded and a people totally devoid of ability for progress or intellectual advancement wander nomad-like from place to place, subsisting as best they can on the forage provided by nature, a people sunk in moral and social obliquity and maintaining only such in-

stincts for the preservation of the species, as are necessary for the ever extending propagation of their kind.

The history of man's activities upon the earth teaches us that many nations in the past have arisen to great heights of wisdom, culture, and refinement, only to be sunk in the midst of oblivion because of widespread racial degeneracy. I have no doubt but that the most potent cause of such declines was the dissemination amongst these peoples of defective germ-plasma, which served to lower the general average of intelligence and breed an insane, defective, and degenerate race. Otherwise, such complete destruction and obliteration of what had once been highly organized empires could never have taken place. We have as apt illustrations the destruction of the Grecian and Roman Empires, that were not so remote as to precede the beginning of written history: back of that time the Egyptians, with a very highly organized civilization; and there is evidence in the earth today of great cities, concerning whose founders and peoples there can be only speculation. Why did they not continue to progress in their arts and sciences? Why did they not continue to replenish the earth? Because they were the victims of their own germ-plasma.

Our present social order by its benevolent attitude towards those who are incapable of fending for themselves has acted to prolong the life of defective people and has thus helped to promote the propagation of their kind, and to offset this a sound policy of eugenics should be adopted. This would involve better social control of defectives at large, the enactment of eugenical marriage laws, and the temporary segregation in institutions for sterilization of as many defectives as possible.

In the light of our present knowledge, the wisdom of such a course cannot reasonably be questioned, and the right of the State to protect its citizens from the ever increasing burden of defective, degenerate, and criminal people is a paramount duty, and of the utmost importance to the welfare of Society.

It is hoped that this Medical Body will take cognizance of the situation as it exists today, to the end that every physician may be alert to the recognition of potential transmitters in his community, in order that these may be segregated from the general population or ren-

dered incapable of procreation by sterilization, for only by the united efforts of all socially-minded people can we hope to avoid such experiences as have befallen other enlightened nations in the past.

A RESUME OF TREATMENT OF FOUR HUNDRED AND SIXTY-TWO CASES OF ACQUIRED AND CONGENITAL SYPHILIS WITH REFERENCE TO INTERSTITIAL KERATITIS AND SPINAL FLUID FINDINGS.*

By H. MCGUIRE DOLES, M. D., Norfolk, Va.

In an attempt to discuss this subject it is my desire, first, to impress upon you that this paper is incomplete. Statements will be made which in all probability you will question and undoubtedly be justified in doing so. The findings are compiled from my records as they were made at the time each case was under observation, using my best judgment and all available recourses I could command at the time to avoid errors.

Criticism, either constructive or destructive, will be welcomed, as it is from the discussion, which I hope will follow, that something will be gained.

I have met a great many difficulties, the greatest of all being to get these patients to realize the gravity of this disease and return for treatment and observation. Failures have been frequent, yet some results obtained have been indeed very gratifying.

To make a brief statement as to the mortality rate from syphilis, this disease ranks sixth. In 1926, there was 16,466 deaths from this disease, as compiled by the United States Bureau of Vital Statistics in the registration area. As you know, sixteen states are not in this area, and their reports are not acceptable. As a majority of the latter are in the South, these figures would probably be greatly increased on account of the negro population. General syphilis was first with 8,965 cases; general paresis showed 5,900, and tabes dorsalis 1,601. The death rate per hundred thousand was 15.7. General syphilis gave a rate of 8.5, paresis 5.6, and tabes dorsalis 1.5.

It is interesting to compare the latter figures with those of England and Wales where the rates are: Syphilis 6.3, general paresis 3.7, and tabes dorsalis 1.9—giving a total death rate

per hundred thousand in those countries of 8.8.

During the past four years ending September 1st, I have Wassermannised 11,963 individuals, varying in age from six weeks to seventy-eight years, in my private practice and at the King's Daughters' Clinic. Nine hundred and forty-one positive Wassermanns were obtained—a percentage of 7.8. Out of this series, 462 have received one or more series of antisyphilitic treatment. Four hundred and seventy-nine cases untreated were mothers of children admitted to the clinic where a routine Wassermann is done on each mother and child. As the clinic is devoted exclusively to the treatment of children, the mothers were referred elsewhere for treatment, with one exception. This will be referred to later.

One hundred and sixty-nine mothers were positive, with negative children, while sixty-three children were positive, with negative mothers. All of the irregularities were checked from two to three times to avoid error.

As it not infrequently happened that one mother had more than one child that was specific, you can readily understand the discrepancy in figures. Fifty-three children that showed positive Wassermanns when first taken were negative, without treatment, to the second and third Wassermanns.

One hundred and forty-three babies received six or more doses of sulpharsphenamin—.1 gm. per thirty pounds of body weight; however, no child, except pre-matures, was given less than .1 gm. This was injected intramuscularly into the buttocks once weekly in 1 c.c. of distilled water, using the same time mercury and iodides.

After an average of six doses, twenty-three were negative, or 16.9 per cent; seven were 2 plus, five a 3 plus, while forty-one showed a 4 plus Wassermann; sixty-nine have not returned for the second Wassermann.

One hundred and sixty-nine children and adults received an average of eight doses of neoarsphenamin—.1 gm. per thirty pounds of body weight—also receiving mixed treatment. Thirty-two were negative, or 21.8 per cent; four were 2 plus; six a 3 plus, while sixty-six were still 4 plus; sixty-one have not returned for Wassermann after treatment. One hundred and twenty-nine children were given six or more doses of sulpharsphenamin intramuscularly. With an average of six

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doses, each; thirty-seven were negative, or 28 per cent; ten were 2 plus, and four a 3 plus, thirty-nine were 4 plus. Forty-one cases did not return for recheck. A higher percentage of negatives was found after the use of sulpharsphenamin than neoarsphenamin. Eighteen mothers were treated. In order to determine the effect of this drug on adults, all eighteen cases were given six doses intramuscularly; five were negative, six were 4 plus, and seven have not been back for the second Wassermann. This gave a percentage of 27.7 negatives.

Comparing the negative Wassermanns obtained after the use of neoarsphenamin against the total number of cases, we have 21.8 per cent negatives, while in sulpharsphenamin we have 24.8 per cent. Again, to compare the Wassermann before and after treatment, we have 29 per cent negative neoarsphenamin, and 37 per cent negative for sulpharsphenamin.

THE CHEMICAL PROPERTIES OF SULPHARS-PHENAMIN, ITS MANNER OF ADMINISTRATION AND COMPARATIVE VALUE TO NEO-ARS-PHENAMIN

Sulpharsphenamin, a sulphurous acid ester of arsphenamin, differs from neoarsphenamin in structural formula slightly, and contains 22-24 per cent arsenic against 18-20 per cent in the latter. It is more stable than neoarsphenamin, both in powder and solution, as has been proven by Voegtlin and his associates. It is therapeutically equal to neoarsphenamin, but is of much lower toxicity. It is eliminated as rapidly by intramuscular as by intravenous injections, has a greater ultimate sterilizing power than neoarsphenamin, and its chemotherapeutic index (ratio of toxicity to parasitical value) is equal to arsphenamin itself. Given in 30-40 per cent solution—.4 gm. in 1 to 1½ c.c. of water—it may be injected intramuscularly or subcutaneously, in adults or children, without irritation, although it is more beneficial intramuscularly. Its ease of administration and its low toxicity makes it of extreme value in infants and elderly individuals, particularly those of advanced age suffering from circulatory disorders. Ehrlich, Eick, White and Mills, Fordyce, and Craig and Sutton have found it particularly effective. Smith, Deyer and Thompson found sulpharsphenamin superior to neoarsphenamin in syphilis of the nervous system when administered by the

blood stream, and comparable to tryparsamid which has the highest penetration of any arsenical yet devised.

Bernard Emery, Boone and Weech, in approximately 550 cases with 5,000 injections, indicate that chancres and secondary eruptions involute rapidly under sulpharsphenamin, and the spirillicidal effect is rapid by intramuscular injection. The general therapeutic effect and action of the Wassermann ranges between neoarsphenamin and arsphenamin, but, in general, is at least equal to the latter. *Spirochaeta pallida* disappear from chancres in ten hours after administration of the drug and in seven cases in seven hours. Chancres heal in from seven to ten days.

Stokes and Behn obtained 100 per cent cures, as shown by spinal fluid and blood Wassermanns in seven cases of primary syphilis; 92.8 per cent in secondary syphilis, and no neural occurrence has been noted. Late syphilis gave 66.6 per cent negative in twenty-one cases, four weakly positive.

Twenty-eight cases of neuro-syphilis received sulpharsphenamin without intraspinal Swift-Ellis treatment. Fourteen were negative in one course and one at the end of the second series. Some of these patients had received previous treatments for neuro-syphilis, ranging from six to twenty-seven injections of original arsphenamin, or six to eighteen injections of neoarsphenamin. Sixteen patients received intraspinal Swift-Ellis-Ogilvie treatments in conjunction with sulpharsphenamin intramuscularly. Blood was drawn on the morning following the intramuscular injection and the intraspinal treatment with arsphenamin reinforced. Serum was given on the morning of the second day after the intramuscular injection. Eleven of the sixteen patients, whose reaction to the blood and spinal fluid was positive before the combined sulpharsphenamin intraspinal treatment, became entirely negative on both blood and spinal fluid—ten in one course, and one in two courses. These patients had previously received from six to twenty-four arsphenamin injections, with mercury, without any improvement serologically, also from the standpoint of spinal fluid.

Cardiac cases responded in reversal of serologic findings at the rate of 46 per cent. Eleven Wassermann-fast cases, after receiving from twelve to twenty-nine injections of arsphenamin, with mercury and iodides, were

rendered Wassermann negative after eight doses of sulpharsphenamin.

In my hands sulpharsphenamin has been used in ages varying from one month to seventy years, in the latter only when no hepatic or nephritic pathology was present, as it is the opinion of the writer that its use under such conditions would be dangerous.

One must bear in mind the superior arsenical value of this drug over neosalvarsan, and doses over .4 gm. are advised against. Six cases were increased to .6 gm. for two doses each, but complaint was made of headache, nausea and dizziness coming on within an hour after the administration of the drug and lasting from eighteen to twenty-four hours. Needless to say the dose was returned to .4 gm.

Out of this series only one local reaction was noted. In my absence a patient was given .4 gm. in 5 c.c. of water. It was attended by severe pain and swelling of the entire leg—not unlike the reaction seen in neosalvarsan when it escapes in the tissues. This patient was unable to walk for a week.

INTERSTITIAL KERATITIS

Briefly speaking, and to quote Fox, interstitial keratitis is a diffuse chronic inflammation of the entire corneal tissue, of constitutional origin, involving the cornea proper and the elastic lamina. It is characterized conspicuously by the absence of any tendency towards the loss of corneal tissue, suppuration or vascularization being very rare in this form of keratitis. There is, on the other hand, round cell infiltration of the deeper parts of the cornea, with a scattering of polymorphonuclear, neutrophiles, epitheloid and giant cells. A similar process is present in the ciliary body and iris. Vascularization of the cornea from sclerosis has occurred. Disposition of this exudative substance within the cornea causes an opalescent opacity. Inherited syphilis is responsible in 50 per cent of the cases; it is more frequent in girls than boys, and often occurs during the second dentition. Even in adults congenital syphilis may be considered, although it may be the result of an acquired infection. Other etiologic factors will not be considered here, as it is the specific type that will be dealt with at this time.

The manner in which the infection occurs is still a matter of question. Elsching feels

that toxins reach the cornea by way of the limbus. Bab and Von Hippel found spirochaetes in the cornea. Guy believed it a gummatous condition.

In this series there are seventeen cases, ten females, and seven males, showing 69 per cent females. Sixteen were of congenital type, with an average age of six years. One male, thirty-four, was the result of acquired syphilis.

The diagnosis was made by a competent ophthalmologist, and the treatment of the eyes locally was under his direction. These patients were treated by me only from the standpoint of syphilis.

The first case, a girl thirteen years of age, with a bilateral infection, was treated with neoarsphenamin, receiving at the same time mercury and iodides. At the end of her sixth treatment there was still some photophobia, redness of conjunctiva, and the yellowish hue of the cornea was still present. Bismuth in one-tenth gm. doses replaced the neoarsphenamin. After the third dose all eye symptoms had disappeared and she was perfectly comfortable. By the end of the tenth dose the ophthalmologist considered her eyes clear and she was permitted to return to school. Wassermann was two plus. She was given ten more doses of bismuth and a second and third check on Wassermann was negative. She has had no return of symptoms to date.

In view of such satisfactory results, four cases were treated with bismuth primarily, receiving from six to twelve doses. No improvement was noted. The bismuth was stopped and sulpharsphenamin, one-tenth gm. per thirty pounds of body weight, was substituted, using mixed treatment at the same time. At the end of the sixth dose, improvement was noted. However, evidence of keratitis still existed. These patients were again put on bismuth, each receiving twelve doses. Number one was clear after the third dose. Cases two, three and four showed no symptoms by the fifth dose. They are all symptom-free at present. One has a negative Wassermann, two have a 2 plus, and one a 4 plus.

Eleven other cases were treated primarily with sulpharsphenamin and mixed treatment for six doses, followed by twelve doses of bismuth. Two cases had no photophobia after their sixth dose of sulpharsphenamin. Three were unimproved, while five showed evidence

of slight improvement. Each was then given a series of twelve doses of bismuth. All were clear from the standpoint of symptoms and physical examination by the sixth dose. Four were Wassermann negative, three 2 plus, while three are 4 plus.

A male, aged 34, gave a history of an initial lesion fifteen years ago and at that time a positive Wassermann. He was treated a period of over two years. At the time he was referred to me he had a bilateral keratitis, but a negative blood Wassermann. In view of his history, it was decided to give him bismuth twice weekly. Improvement was noticed after the seventh dose. By the end of the twelfth dose, he experienced no discomfort whatever. He was given twenty doses and at time of discharge was symptom-free, and the specialist in attendance considered his eyes normal.

Bismuth was first used by Sazerac and Leviditti in 1921, later by Muller, Cagal and Spierer. Torak was the first to regard it of greater value than mercury; however, Pinard and Frank have been a bit skeptical as they think it produces anemia and emaciation. Kleefeld thinks it is superior to arsphenamin in keratitis. Milan values arsphenamin ten, bismuth seven, and mercury four, as spirocheticides. Carroll Wright was very enthusiastic of it in the eight cases treated by him. In other forms of syphilis of congenital type, only four were negative out of forty cases after receiving from thirty to forty doses of neoarsphenamin, yet he was able to obtain twenty negative Wassermans of this same series after twenty to thirty injections of bismuth in each case.

Guy found interstitial keratitis present in 1 per cent of fifteen thousand eye cases, though there were 6 per cent in two thousand five hundred and thirty-six syphilitics. Females predominated, 59 per cent, but it seems to be less malignant in this sex. He makes no reference to the use of bismuth in treatment, using arsphenamin with mercury and iodides. Twelve weeks was the average time required before his cases became symptom-free.

I am unable to agree with Pinard and Frank that bismuth produces anemia and emaciation, as in no case was anemia noted; however, a gain in weight from three to fifteen pounds was observed. No case in this series was treated without the assistance of an ophthalmologist. We were fortunate in rendering

every case symptom-free. Six were Wassermann negative, while five were improved serologically. Four were strongly positive, while one was negative when treatment was begun.

From my observation in this series, my firm conclusion is that bismuth is possibly the greatest adjunct to arsphenamin we have in the treatment of interstitial keratitis; yet, when given alone in the presence of a positive Wassermann, I have been unable to obtain the satisfactory results that I did when the patient had first been salvarsanized.

SPINAL FLUID FINDINGS IN CONGENITAL SYPHILIS

Does congenital syphilis involve the central nervous system? If so, what is the earliest age it may be expected, and, if present, what type?

I shall confine my remarks entirely to the spinal fluid findings, although three cases are under treatment at present. No attempt will be made to discuss the latter, as the time devoted to this particular phase will not justify any statements made relative to results obtained.

Thirty-one children, twenty-seven males and four females, varying in age from six months to fourteen years, with an average age of seven and a half years, were selected at random from this series of known specifics. Careful physical examination, with particular investigation of the eye-grounds by an ophthalmologist, was made before any puncture was done. The fluid was studied from the following standpoints: Appearance, pressure, globulin, cell count, quantitative sugar, Wassermann and colloidal gold.

Twenty-nine were clear, while two were slightly cloudy. Four showed a marked increase and two very low pressures. Nine cases showed a definite globulin reaction, using both the Pandy and ammonium sulphate method. One had a cell count of four and a positive blood and spinal fluid Wassermann, likewise a positive paretic curve. A second had a definite trace of globulin, a cell count of forty-nine, also a positive paretic curve, and a four plus spinal fluid Wassermann. A third, with a cell count of four, likewise had a four plus spinal fluid Wassermann, also a positive paretic gold curve. A fourth had a cell count of two, a positive spinal fluid Wassermann,

also a positive paretic curve. Case five had a negative spinal fluid Wassermann. The cell count was six, and reacted positive to the colloidal gold.

Cell counts varied from one to forty-nine, with an average of six and two-tenths. Thirteen showed only one cell.

Sugar estimates were interesting, with a general average of 44.6 mg. per 100 c.c. Females showed a slight increase over the males, with 45.4 mg. against 43.3 mg.; 20 mg. was the lowest recorded, while 58 was the highest. The four cases showing a positive paretic curve, revealed an average of 41.75. Spinal fluid sugars we know vary with the blood sugar, Wilcox and Lyttle claiming this is one-half the blood sugar. Kubie and Scholtz obtained 33 to 81 mg. per 100 c.c. Grayzel and Orent were unable to establish a fixed percentage. They obtained from 40 to 190 mgs. Unfortunately, blood sugars were not done in this series. However, a standard of 69 mg. of spinal fluid sugar per 100 c.c. as Seham and Nixon describe, is taken as the normal, as the work of other investigators compares favorably with this.

Twenty-six were punctured under a general anesthesia for obvious reasons, which necessitated this group being without food twelve hours previous to the puncture. An average of 43.2 mgs. was obtained, yet five cases done under local anesthesia within a period of two hours after meals gave an average of 46.8 per 100 c.c. The difference seems negligible.

The writer was unable to find in the literature anything by American or English writers on the sugar estimates and spinal fluids of known congenital syphilitics. Much has been written by both French and German investigators; unfortunately, it was not possible to get these articles.

Comparing the average sugar of fluids from individuals not infected with syphilis, it seems one would be justified in believing that syphilis in all probability has some definite bearing on the sugar content of spinal fluid.

Five cases gave a typical paretic curve to the Lange colloidal gold reaction. These were two babies, six and eight months old, and three children, six, eight, and twelve years old. Four showed a strongly positive blood and spinal fluid Wassermann. The six months old baby's blood Wassermann was four plus, spinal fluid Wassermann negative, yet a typical paretic

curve was obtained. There were some red blood cells in this fluid, although it was centrifuged until no cells were present microscopically. The correctness of the curve may be questionable. In this small series 16 per cent were paretics. No tendency to either the meningitic or tabetic curves was noted. Whether the latter exists, I am unable to say.

Dayton lays little stress on syphilis as a cause of mental deficiency, as out of nine thousand one hundred and eighty-three cases, only 5.4 per cent were mentally deficient.

In a series of thirteen selected cases reported by Grulee, of Chicago, he found the colloidal gold reaction to assume at times the same degree as shown in cases of paralytic dementia. He was unable to find any agreement between the blood and spinal fluid Wassermann or colloidal gold. He also found a positive gold curve in the presence of a negative spinal Wassermann. Likewise, he was able to demonstrate a strongly positive spinal fluid and gold reaction, but a negative blood. This we not infrequently find in adults. I did not find this true, but in all probability my series was not large enough. Tubercular meningitis gave a gold reaction from 1 to 160 and 1 to 320, but varied with the progress of the disease. He was unable to associate idiocy or epilepsy with any gold reaction.

INFLUENCE OF BLOOD AND SERUM ON COLLOIDAL GOLD REACTION

After obtaining a typical paretic curve in fluid containing blood, I was interested to know whether blood or serum would have any effect on gold reactions—if so, the type of curve produced. A number of fluids which were gold negative were treated with blood, and again set up; no reaction was obtained. Unfortunately, serum was not used alone.

Mehrtens, Wychoff and Davis found in their investigations that spinal fluids which are contaminated with blood, but from which the cells have been removed by centrifugation before hemolysis occurs, produce a gold curve, altered in intensity only. The type of curve remains the same. Spinal fluid from patients with general paralysis, made normal by treatment, on contamination with blood plasma, shows a tendency to revert to the former paralytic type of curve. The original colloidal gold curve of spinal fluids, experimentally contaminated with patient's blood, can be ap-

proximately reconstructed, provided hemolysis has not occurred. There appear to be reasons to believe that similar reconstruction can be made of curves of spinal fluids accidentally contaminated.

CONCLUSIONS

1. The percentage of negative Wassermanns in hereditary or acquired syphilis is larger after treatment with sulpharsphenamin than neoarsphenamin.

2. The use of sulpharsphenamin is not nearly as restricted as neoarsphenamin.

3. Sulpharsphenamin is practically adapted to the treatment of all forms of syphilis.

4. Interstitial keratitis is amenable to treatment, and excellent results may be obtained by the combined use of arsphenamin and bismuth.

5. The value of bismuth is certainly enhanced if the patient is salvansanized first.

6. Children with hereditary syphilis may have involvement of the cerebral nervous system, and paresis is the type of lesion found.

7. Spinal fluid sugars seem to be decreased in syphilis.

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NEURASTHENIA.*

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Definition: Beard, of New York, in 1869, described a condition of a dissimilitudinous group of disorders as *neurasthenia*, the common characteristics of which were manifestations of fatigue, exhaustion and prostration, without symptoms of organic disease. Various

types of functional nervous disorders had been previously described many years before Beard's excellent work appeared, yet, his was the first effort at generalization. Still there were included types of cases which are now recognized as presenting features which justify a different nomenclature. Even today, we are far from a satisfactory and universally approved definition of neurasthenia. However, no attempt will be made in this direction and we shall accept the commonly adopted view that "*Neurasthenia is a functional nervous disorder characterized by manifestations suggestive of a state of fatigability and irritable weakness, which may be observed in any or all of the bodily activities and yet without any evidence of disease, and with a broadcasting of symptoms to parts distant from the alleged disorder.*"

The conception of functional disorders has been the subject of much controversy: and by some, even today, it is a debatable question whether disturbances of function can exist without change in structure. There is not much doubt that the term "functional," as largely used today, covers a multitude of diagnostic sins, so far as the underlying structural changes are concerned.

General Considerations: Neurasthenia is almost never observed as a *primary* disease entity. It is more generally *secondary*, and is accompanied by a complex series of symptoms which are aided and abetted by *loss of energy, a lessened normal power of recuperation, an inherent weakness, an unstable mental state, and persistent autosuggestion.* The peculiar mental characteristic of the neurasthenic and the predominating emotional vagaries are *characteristic*, and greatly influence prognosis. *The accompanying mental traits* "good or bad, higher or lower than the average, something outstanding or sunken" label the *neurastheniac*: *they are often due to heredity and therefore the prognosis is not encouraging.*

This class of patients are egocentric; self-effacement is out of the question: the mind is set upon some grave disorder with a play and radiation of symptoms to parts far removed from the supposed disorder, depending largely upon the self-suggestibility of the neurastheniac's faculty for autosuggestion.

Neurasthenia has in recent years been included to as an "American disease" (Americanism). However, it is by no means a modern disease, nor can it be designated a purely

*Read by title at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

American disease. This symptom-complex was known to the ancients, and Hippocrates wrote descriptions of similar diseased conditions many hundred years ago. Primary neurasthenia, where there is no attending or provocative disease, presents a history, in early life, of "irritable weakness," which generally characterizes all neurasthenic states. Such individuals come into the world handicapped with lowered vitality and lowered resistance; their *cerebrospinal system and general nervous mechanism* do not respond to the ordinary stress and strain of modern existence; throughout life's vicissitudes, the neurasthenic complex is liable to become predominant on the slightest cause. Even after long periods of freedom from multitudinous annoying symptoms,—with the hoped for recovery in sight,—something unexpected happens, some slight cause supervenes and there is a return of the condition and the persistent autosuggestion continues to influence the whole mental make-up of the patient.

It is held by competent clinicians that "neurasthenia is not a *primary* disease," but is a *secondary* result of some "exogenous" factor. In the "predisposed," it usually develops between the twentieth and fortieth year; the most frequent causes are mental and physical stress and strain. Clinical experience seems to verify the fact that it is more likely to develop in the active and originative than in the loiterer who moves along the lines of least resistance. Cleghorn, in a study of 6,000 cases, came to the conclusion that it was more frequent in men than in women. Sedentary habits magnify the symptoms, and indolence and ennui invite self-suggestion which mothers the neurasthenic state.

ETIOLOGY

Predisposing Causes: Trustworthy statistics upon the etiology of neurasthenia are wanting, for the principal reason that we have no widely accepted definition of the disorders which are now included under the present nomenclature. *Sex.*—The disorder is thought to be somewhat more prevalent in females than males; however, Cleghorn's experience was to the contrary, and Von Hossling, in a series of 832 cases, found that 604 were males. *Age.*—In discussing the incidence of age in this disorder, Singer says: "fully one-fourth of the cases have developed, as nearly as can be determined, between the ages of twenty and

thirty; 30 per cent between the ages of thirty and forty, and 40 per cent between forty and sixty." The approach of the climacterium in middle life, in both sexes, has a greater provocative influence on the development of neurasthenia than that of the pubescent period in early life. *Heredity.*—The hereditary influence of some neuropathic family taint can be traced in the majority of cases. Individuals of poor hereditary endowment are more inclined to develop neurasthenia than are those of a *rugged constitution*. On the other hand, it would seem logical to assume that the greater the degree of familial taint the more likely the probability of transmitting the kind of functional disorder to the offspring. *Social Status.*—No social group is exempt from neurasthenia; it is found in hovels of the indigent and in the palaces of the opulent. It is more frequently observed in brain than hand workers, and in metropolitan centers than in the rural districts. Beard, in his original work, stressed, with emphasis, the apparently greater incidence of the disorder in American cities, and held that the hustle, stress and strain of American business methods was highly provocative of the neurasthenic state.

The stress and strain of our high powered civilization has become so enormous that weakened nervous systems succumb to them. The overwhelming desire for preferment in business or social struggle, an insane quest after the pleasures of life, foolish attempts to get a whole week's activities out of a twenty-four hours, the demands for sensational literature and "Jazz," for rapid transportation and for violent stimuli, erotic plays, the indulgence of sex, etc., all are provocative of and conducive to "wear and tear" of the nervous system. The present attitude of the American mind regarding marriage, divorce and the sex problems, plays a role which severely taxes the nervous system of the predisposed, and leads to discontent, disappointment and dissatisfaction, fatigue, and disability. Any exogenous factor, such as mental strain, economic or professional competition, social disadvantages, may foster the development of the constitutional predisposition.

Over-work.—Contrary to the widely accepted belief that over-work is directly chargeable for the development of neurasthenic conditions, there is today a steadily "growing appreciation of the fact that the real significance of over-work in relation to neurasthenia has

not been properly grasped," and it is simply begging the question to assert that over-work, *per se*, is responsible for the condition. Experience, however, has shown that work habitually prolonged—"burning the candle at both ends"—will bring about nervous, mental and physical exhaustion.

Idleness in persons who inherit a predisposition to any neurosis is one of the prime factors leading to a neurasthenic state, and is a great deterring factor against regaining the equilibrium necessary to overcome the condition. The unoccupied individual thinks *too* much of his ailment, though he may suffer from a minor disorder or an acute indisposition, when he allows his mind to dwell upon it exclusively and habitually: he imagines his symptoms to be of the most serious significance, and, through the impression of his self-suggestion, this imaginary gravity takes possession of him and becomes an obsession which harasses him from within and without.

Luxury and its gratification, idleness, vacant, vain and frivolous, and its indolent ennui, the stress and strain of our modern high-powered civilization, are severally and collectively robbing the predisposed of their resistance. "Judicious healthful occupation brings, with the dissipation of the symptom-complex," happiness, contentment, a sound mentality, normally functioning organs, ready to fight disease and throw off the emotional element which hinders restoration to health and happiness. The neurasthenic, free from organic disease, who continually thinks of self, who is "hipped" over his ailments, who holds certain symptoms continuously before his mind's eye, who is egocentric, cannot make the grade; recovery is impossible without sufficient mental uplift to give him a boost, with honest suggestion and healthful employment.

Emotional stress and strain is a potent and probably the most important factor in the development of this disorder. Along with conditions of emotional stress must be considered increased responsibility, business and financial worries or reverses, changes in the method of living and occupation, unexpected misfortune, failure in achievement, or of expected reward or appreciation, and sudden shocks of accident, strife and death may overwhelm the neurasthenic.

Insufficient early discipline, want of self-control, and failure to live a normal average

life have a far-reaching influence, resisting unfavorably the recuperative powers. Faulty hygiene and lack of education are potent factors tending to rob patients of the forceful faculty to lift themselves above their environments and out of the condition into which they gravitate on the slightest provocation.

Occupational Influences.—Agreeable occupation often improves the condition of these neurasthenics, more especially if there is no worry or undue excitement. It is often remarkable how the confirmed neurasthenic responds to suggestion and employment which keeps his mind active but without mental or physical fatigue. Employment amidst favorable and pleasing surroundings is most helpful.

Focal Sepsis as a Factor.—In evaluating the neurotic and mental changes associated with focal sepsis, one can recall the well-known mental disturbances due to toxæmia, frequently observed in infective fevers, such as typhoid or pneumonia. If an acute infection so seriously disturbs the mental faculties in a few hours, it is not unreasonable to assume that a chronic toxæmia could seriously upset the mental equilibrium in the course of several weeks or months. A careful painstaking history and meticulous physical examination of this type of patient will often reveal foci of infection. The favorite sites of such infections are the roots of the teeth, the tonsils, and the sinuses. The architecture of these anatomical areas is such that the "infection" is corked up tight with no exit. The toxins from these foci are gradually absorbed into the circulation and carried to distant parts of the body, exerting deleterious effects upon the joints, ligaments, and may be responsible for degenerative diseases of the cardiovascular system and kidneys: likewise, such focal infections may be etiological factors in bringing about neurotic conditions which culminate into a neurasthenic state.

Intestinal Toxæmia Due to Starchy Fermentation.—The accepted belief that intestinal toxæmia is caused by a meat diet, and that it can be relieved through a dietary of fruits, nuts and carbohydrates, is now known to be erroneous. The greater number of such cases are due to the fermentation of starches and sugar. In normal digestion starch is completely digested, converted into a soluble sugar in the upper part of the small intestine, and

there "side-tracked" out of the intestine, and absorbed into the blood stream. When for some reason such digestion and absorption do not take place normally, a portion of the starch eventually reaches the *bacteria-infected* colon, and fermentation takes place with the formation of gas and poisonous products, the absorption of which is responsible for a long train of symptoms, chiefly nervousness, easy fatigue and general wretchedness. The same detrimental results follow, with even greater force, to the ingestion of large quantities of sugar. Small amounts of this substance can be detoured from the small intestine into the circulation and prevented from reaching the colon. If, on the other hand, inordinate quantities are consumed, fermentation, with its evil effects, is sure to follow, with resulting trouble, as with raw starches.

Everybody today consumes inordinate amounts of sweets. A century ago the annual per capita consumption of sugar in the United States was 5 pounds; fifty years ago it was 30 pounds, and today it is about 100 pounds.¹ In these cases the characteristic tongue can be readily observed, coated, sometimes glazed red, with indentations of the teeth around the tip and edges. The neurasthenic patient is a pathetic, tragic individual, and very often his deplorable condition is the result of very obvious intoxications and focal infections.

CLINICAL TYPES.

Various clinical types of neurasthenia, mainly for convenience of description, have been outlined; the numerous subdivisions receiving their nomenclature from the organs to which the leading symptoms pointed, such descriptive titles as *cerebral*, *spinal*, *gastric*, *cardiac*, *sexual*, etc., neurasthenia. This attempted effort at diagnostic precision in classification was not a brilliant accomplishment, since, from clinical experience, we have seen one week a *cardiac* neurasthenic who will become *sexual* neurasthenic the next. However, we will, for the present, follow the old "well worn" classification.

SYMPTOMATOLOGY.

The beginning of the attack of neurasthenia is so insidious in its inception that it is difficult to state, with definite precision, the commencement of leading symptoms. Usually some alleged *exciting cause*, such as an emo-

tional shock, accident, an infectious fever, or other prolonged exhaustive illness, is charged with the etiology. A careful review of the case and of the preceding history of the "breakdown" will often reveal the fact that evidences of anxious apprehension and a feeling of deficiency and inadequacy have antedated the onset of the *exciting cause*. The prodromal uneasiness, uncertainty and restlessness sways the neurasthenic to a moroseful outlook upon his condition. He has, though unsuspected by his family, a feeling of over-whelming incapacitating infirmity, a dread of inadequacy, which he may honestly have tried to throw off, which in itself is infinitesimal and insignificant as compared with the suffering anxiety and distressing wretchedness which rounds out the picture of a "breakdown."

Cerebral neurasthenia is that variety in which a condition of incapacity for work and for responsibility has been induced by excessive mental work, by constant and onerous responsibility, usually associated with anxiety, worry and mental strain, perhaps also associated with domestic or financial difficulties.

Spinal neurasthenia is frequently accompanied by pain of a severe character in the back, often throughout the length of the spine, but in many cases much intensified in the cervical region and in the region of the coccyx. Accompanying this pain there is frequently associated weakness of the lower limbs. The knee jerks may be active; there may be pseudo-clonus, but the plantar reflex is not of the extensor type; indeed, it may be difficult, or even impossible, to elicit any reflex from the sole of the foot. Such cases are usually of traumatic origin and often referred to as "railway spine."

Cerebro-Spinal Symptoms.—In the performance of mental work the neurasthenic will complain of depressing fatigue and exhaustion. His calvarium will have a feeling of emptiness, he experiences the greatest difficulty in concentrating his mind on a given subject, his memory is bad, and his thoughts are hazy and confused. He feels tired, restless, irritable and anxious; even minor trifles cause excessive worry, his nerves are on edge, and his miserableness robs him of rest. Even a bright light, the ticking of a clock, or the slight disturbance caused by a member of the family moving about the room may throw him into a frenzy of irritation, leading to rapid and com-

1. Fitch, W. E.—Dietotherapy, Vol. I, pp. 620-635, D. Appleton & Co.

plete exhaustion. The patient has difficulty in recalling where he puts things, or in remembering the names of people and places. Mental concentration is a hopeless effort and may be accompanied by all the outward manifestations of fatigue and exhaustion, small-rapid pulse, changes in breathing, sweating and lassitude. The sufferings and complaints are aggravated and intensified by their discussion, and can be greatly mollified by hopeful explanation and assuring encouragement of the outlook of his condition. Insomnia is frequently an annoying phenomenon. These patients will tell the doctor they have not slept for days, weeks, or even months. They certainly sleep, though extremely light, so that the slightest noise disturbs the patient. Such patients will lie quietly for hours and, when questioned later, will state that they were aware of all that took place in the room, etc. On awakening in the morning, the patient is not refreshed, and feels more tired than when he went to bed, which adds to his increasing feeling of helplessness and hopelessness.

Cardiac neurasthenia is a most distressing condition, in which the cerebro-spinal functions may be only slightly disturbed, while the cardio-vascular symptoms may be alarming; again, the conditions may be just the reverse. Palpitation, with irregular heart action, pain and oppression in the cardiac area, are the most distressing symptoms. Aortic pulsation, producing throbbing in the epigastrium, and which can be readily observed in these subjects may be mistaken for aneurysm.

Cardio-Vascular Symptoms.—The patient will complain of flushings of the face, dizziness, throbbing in the ears, sinking sensations, etc., urticaria, while coldness of the hands and feet may and often is present. The body secretions—urine, sweat, saliva—may be either lessened or increased. The urine is frequently loaded with oxalates, phosphates or urates.

The action of the heart is variable; the pulse may be normal or thereabout while lying quietly abed, but becomes markedly accelerated on arising. Arrhythmias of functional type may be noticed: they are not, however, nearly so frequent as the complaints of irregular heart action, palpitation, etc. The blood pressure may be entirely normal, and, though hemic murmurs may be observed, there is really no evidence of cardiac disease.

Gastric neurasthenia, or anorexia nervosa, is

a distressing condition, with complete loss of appetite, regurgitation, vomiting, and the whole series of phenomena associated with nervous dyspepsia. The subject is usually a young girl between the ages of seventeen and twenty-five. Carelessness about food, with the absence of compelling appetite, lead to irregularity in feeding; the meals are minced over and the patient gradually wastes.

Gastro-Intestinal Symptoms.—The patient usually complains of fullness, pressure, or distress after eating, or even of slight pain after belching, loss or irregularity of appetite, a sleepy feeling, or even weakness or dizziness. The tongue is sometimes clean; again, it may be large, flabby and show indentations of the teeth on its tip and edges. There is marked mental depression; the patient is nervous, anxious and irritable. The outstanding "peculiarity of these cases is that the quality and quantity of the ailment seems to make but slight difference in the symptoms" (Kemp). At times indigestible food can be taken with impunity, and, again, the most easily digestible food will produce symptoms of discomfort. The appetite gradually fails until food positively becomes repugnant, so that even moderate indulgence in the most delicate and tasty viands leads to actual retching and vomiting. Such a patient wastes progressively, until at last she is nothing but a living skeleton.

Sexual neurasthenia is a condition in which there is an irritable weakness of the sexual organs manifested by nocturnal pollutions, unusual depression after intercourse, and often by a distressing dread of impotence, or with remorse for some form of sexual depravity and dread of its consequences; in these cases also, the sensations and symptoms pointed out in the cerebral and spinal type may be present. "The sexual neurasthenic is a difficult patient to influence. He has, as a rule, been misled by designing quacks or debasing literature, which has magnified his neurasthenic state, and has set in motion an almost continuous self-suggestion with all of its evil consequences." He will, if not taken in hand by honest suggestion, lapse into *sexual hypochondria*. Sexual neuroses in women is often as intractable and rebellious as in men. Recurrences are often discouraging, but most cases finally recover.

Sexual Symptoms.—In many cases these symptoms so completely dominate the picture that they are termed "sexual neurasthenia." In

the male, the usual complaint made to his physician is frequently nightly emissions, erotic dreams, lack of sexual desire, incomplete erection, premature ejaculation, absence of orgasm.

The laboratory findings from a sample of urine reveal slight changes from the normal. Oxaluria, phosphaturia and indicanuria may be found in slight excess. The percentage of indican indicates the putrescence of a protein dietary and constipation. In the female, menstruation becomes scanty and irregular, a fact which, with autosuggestion, brings the fear of premature age, and loss of vitality of the generative organs.

Neurasthenia as an Endocrine Syndrome.—"The typical neurotic generally, if not always, has disturbance of the thyroid gland. The typical neurasthenic probably generally has disturbance of his suprarenal glands on the side of insufficiency. The blood pressure in these neurasthenic patients is almost always low and their circulation is poor. A vasomotor paralysis, often present, allows chillings, flushings, cold or burning hands or feet, drowsiness when the patient is up, wakefulness on lying down, and hence insomnia. There may be more or less tingling or numbness of the extremities."² Beyond doubt, many of the symptoms of neurasthenia are potently of sympathetic origin—the clammy hand, flushed or pallid features, dilated pupils, the innumerable paresthesias, the unwonted sensations of heat in the head or body.

Sympatheticotonia.—In certain types of the neurasthenic state this class of symptoms are the chief or only manifestations of the disorder. Here we have a well-defined condition of sympatheticotonus, which is a condition of active tonicity, resulting from over-action of the sympathetic nervous system. "Here is a condition of hyperactivity of the sympathetic nervous system manifested by paralysis of accommodation, dilated pupils, dryness of the skin and conjunctiva, cold hands and feet, numbness, with sensations of pins and needles, hypoacidity, diminished intestinal tone, constipation, exophthalmus, tachycardia, hypertension, urticaria and lowered carbohydrate tolerance."³

*Vagotonia*⁴ is the result of irritation of the vagus or pneumogastric nerve. It happens that the functions of the vagus are antagonistic to those of the sympathetic; hence, vagotonia is the opposite to sympatheticotonia: both of these conditions are closely allied with neurasthenia, and are unquestionably closely connected with disturbances of the glands of internal secretion.

Constitutional Symptoms.—The neurasthenic is an introspective individual who has lost a large part of his stamina. He has imaginary ailments for which there can be found no local or biological explanation. This class of patients believe they have malfunctions of certain organs or tissues, and think about their supposed ailments until their thoughts become an obsession; and their lives and actions are colored by self-suggestion. "The neurasthenic reacts to both exogenous and endogenous stimuli with more or less psychic disturbances, such as physical and mental hyperfatigability, decrease of capacity for concentration, memory defects, dysphoria, exaggerated affectivity and insomnia. The constitutional symptoms are manifold, and include headache, dizziness, insomnia, vestibular disturbances, cardiac palpitation, tachycardia, respiratory arrhythmia, angina, hypertension, tendency to turn pale or blush readily."

HISTORY TAKING IMPORTANT

The patient's history should be taken with painstaking thoroughness, which also applies with equal emphasis to the mental and physical examination. This is often impracticable at a single office visit, as it entails much work, including the evaluation of laboratory reports, which cannot be considered at the first visit. Indeed, for a careful study of the patient it is best to have them under observation in a sanatorium for a week or ten days, during which time they can be thoroughly studied, and attention given to the various special examinations. If some minor physical ailment should be detected, involving some organ or organs, great care should be exercised in making even a tentative diagnosis or prognosis. An unguarded opinion, thoughtlessly expressed in the early stages of the case, may later be greatly deplored.

A CORRECT DIAGNOSIS ESSENTIAL

A "snap" diagnosis of a mild or moderate neurasthenic state should not be made. A thorough diagnostic study of both the physical

2. Jour. A. M. A., Dec. 18, 1915.

3. Fitch, W. E.—Dietotherapy, Vol. III, p. 306, D. Appleton & Co.

4. Fitch, W. E.—Dietotherapy, Vol. III, p. 306, D. Appleton & Co.

and psychical side should be made, going into not only the possibility of morbid anatomical changes, but also of the pathological physiology, abnormal psychology, and so far as possible the exact etiology. There is in every case some primary discoverable abnormal physical condition responsible for the etiology. Find it and direct your battery of treatment to *conquer* the cause.

ADAPTABILITY OF THE PHYSICIAN

There is much truth in the saying that "a physician's success as a general practitioner depends largely upon his ability to successfully treat patients suffering from the neurasthenic state." Only those who are interested in neurology, who derive genuine satisfaction from the work of restoring such patients to health, and who do not become impatient with the vagaries of the functionally nervous, should assume the responsibilities of treatment of this class.

The practitioner who would make a success in this special field ought to be educated, refined, polished, sincere, honest, kind, firm, and able to adapt himself to circumstances. He should possess that quality of personal magnetism which inspires the confidence of the patient to make him "father confessor" to the innermost secrets of the patient's unhappy existence. When the plan of treatment has been decided upon, the physician should lay down definite, positive and accurate directions. Firmness, judicious sympathy, kindness, patience, and optimism are the attributes of success.

REQUIREMENTS OF THE NURSE

Great care should be exercised in selecting a trained nurse to take care of a neurasthenic patient. First of all, she should possess the requisites similar to those just enumerated for the physician. She should possess that attribute of personal pulchritude to make her attractive and alluring; she should be cheerful, pleasing, and inspiring; absolutely cleanly, neat, patient, tactful, and, above all, have plenty of good common sense. The nurse should diligently avoid advancing any impression that the management of the case originates with her, but that the "discipline" and "rules and regulations" are the directions of the physician. Her attitude toward the patient should be that of friendliness and helpfulness: above all, the nurse herself should be

free from any neurotic ailment, and she should be thoroughly healthy in body and mind. No matter how competent a nurse may be, when so intimately and continuously thrown together, mental boredom may result and a change would then be advantageous for both patient and nurse.

TREATMENT

Rest is now universally accepted as a therapeutic agent in the treatment of all patients suffering from neurasthenic states. Rest, mental or physical, or both, may be enjoined, or the rest may be partial or complete as the physician may deem advisable.

Beard, in his first communication on the subject, advised the value of rest as a therapeutic procedure. It remained, however, for S. Weir Mitchell to point out the real value of the "rest cure." *Partial rest*, from a few hours, to the major portion of the twenty-four hours in bed may be prescribed to suit the individual needs, and will be found most useful in the management of the milder types, as well as in ameliorating the condition of those who ought to take the rest, but feel that for economic reasons they cannot afford to leave off their employment. *Complete rest* means both mental and physical quietude, rest of mind and body, and means a prolonged stay in bed, with a nurse in constant attention to anticipate and attend the patient's every want and desire. In such cases, the patient is fed by the nurse, the patient not even being allowed to get up for urination or defecation. Complete rest means that all communication with the family and friends is stopped: the patient is not allowed to receive mail or read; in fact, unnecessary conversation is advised against. Absolute rest in bed (a) reduces the expenditure of physiological energy to a minimum and aids in restoring normal function in fatigued tissues; (b) it helps in establishing confidence in the physician's instructions and management of the case. Such rest is indicated in all patients who show marked exhaustion and extreme fatigue, irritability and emotional storms. The duration of the period of enforced rest is largely a matter for individualization.

Isolation, as with rest, may be partial or complete. The main idea is to separate the patient as far as possible from the family and friends, and from all sources of external irritation; it also serves to strengthen confidence

and give the physician entire control over the patient. Extremely irritable patients—hypertensive individuals—who are impressionable to all outside influences and stimuli and whose distorted perception and self-suggestion yield exaggerated reactions, are greatly benefited by temporary isolation. The separation from over-anxious and over-sympathetic friends and relatives is most advantageous to the patient; many of these neurasthenics feel that their ills and ailments are not understood by the family, and that they are neglected and sometimes abused. In some few cases isolation may be carried out in the home, but this is most difficult and better results can be accomplished in a well-ordered sanatorium.

Dietotherapy.—The dietetic treatment of neurasthenic conditions has received much discussion *pro* and *con*; many fanciful dietetic measures founded upon multitudinous ideas of the pathology of this ailment have been advanced. In prescribing a dietary for the neurasthenic, the following objects are desirable: (a) secure physiological rest of the alimentary canal; (b) adjust the ingestion of food to the underlying abnormalities of the metabolic processes, and (c) regulate definite gastrointestinal functions.

Barker⁵ advises a restricted diet to secure digestive repose, and directs that milk in small quantities be given often, without other food, for days or weeks. "In cases of marked gastrointestinal atony, dilatation, and diminished gastric secretion, some care must be exercised in giving milk lest fluid further dilute an already impoverished gastric juice, favor gastric dilatation, cause diarrhoea or constipation, and really starve the patient. When gastrointestinal symptoms are absent, or of minor importance, except for anorexia, the gastric juice being normal, certainly no harm, but distinct benefit may be derived from a course of milk feeding."

Neurasthenia is always accompanied by impairment of the digestive function, and as a result, intestinal toxæmia from the absorption of intestinal putrefactive products is a factor to be taken under advisement. The digestion in this class of functional neurotics is peculiar in that it is not constant for any particular class or classes of foodstuffs. An article of diet which one day is digested with impunity may on another day produce violent digestive

disturbance. Since the digestive functions are always feeble, it is best that any article of food that is allowed should be given in moderate amounts at any one meal. Foods which, though not indigestible, require a long time for digestion, should be omitted, such as pork, veal, corned beef, turkey, halibut, the various varieties of cured and smoked fish, cauliflower, carrots, beans, rich desserts, pastry, creamed soups. A piece of lamb, beef or chicken may be permitted once a day.

The neurasthenic is particularly prone to develop mental irritability, unhappy emotional states, and outbursts or attacks of anger and depression, often, from trivial and insufficient causes. Under such conditions, the digestion may be almost wholly upset and arrested, regardless of the kind and class of foods ingested. On the other hand, when the patient is amused, pleasurably interested, and enjoying himself and his environments, he will, practically enjoy and digest with impunity almost any variety of foodstuffs.

The Weir Mitchell Rest Cure.—There is a large and important and ever increasing group of "high strung," emotional women who receive much benefit from the Weir Mitchell method. The principal points in carrying out this method are isolation, massage, balneotherapy, and forced feeding. The isolation from friends, callers and the family exerts a beneficial and moral effect.

In discussing this subject six years ago, I said,⁶ "The patient should be kept in bed for at least six weeks, leaving it only to go to the toilet. Mitchell recommends that the milk diet should be instituted gradually, especially if the patient has an aversion for milk. It should be given in doses of one or two ounces every two hours and gradually increased until as much as two quarts are drunk in the twenty-four hours. In some cases Mitchell recommends that the milk should be given even at night as often as every three or four hours. At the end of the tenth day an egg or chop should be eaten at noon in addition to the usual allowance of milk. Often earlier than this, Mitchell prescribes meat juice once or twice a day. A day or two later bread and butter are given and an egg or some meat at breakfast as well as at dinner. By degrees the patient is placed upon a diet of three simple but generous meals daily, and, in addition, three

5. Barker, Lewellys F.—*Therapeutics of Internal Disease*, Vol. IV, p. 537, D. Appleton & Co.

6. Fitch, W. E.—*Dietotherapy*, Vol. II, p. 549, D. Appleton & Co.

or four pints of milk are consumed, the latter being administered partly with the meals and partly between meals."

The following is a synopsis of the management of an individual case of Weir Mitchell's, and is appended to illustrate the practical application of his rest cure:

WEIR MITCHELL'S DIETARY.⁷

Mrs. C., kept in bed, fed by an attendant, rises only to relieve bladder and rectum.

First Day: One quart of milk in divided doses every three hours.

Second Day: Cup of coffee on awakening. Two quarts of milk in divided doses every two hours. Aloetic pill at night.

Third to Sixth Day: Same diet.

Seventh, Eighth and Ninth Days: Same diet, with a pint of raw soup in three portions. This is made by chopping up one pound of raw beef and placing it in a bottle with a pint of water and five drops of strong hydrochloric acid. The mixture stands in ice all night; in the morning the bottle is put into a pan of water at 110° F., and kept two hours at about that temperature. This mixture is then thrown into a stout cloth and strained until the mass that remains in nearly dry. If the raw state proves very objectionable, the beef to be used is first quickly broiled on one side and then the process is completed in the manner previously described.

Tenth Day: 7:00 A. M., coffee; 7:30 A. M., 10:00 A. M., 12 M., 2:00, 4:00, 6:00, 8:00, 10:00 P. M., half a pint of milk; 11:00 A. M., 5:00 and 9:00 P. M., soup.

Fourteenth Day: Eggs, and bread and butter added.

Sixteenth Day: Dinner added, and iron.

Nineteenth Day: The entire diet was as follows: 7:00 A. M., coffee; breakfast, 8:00 A. M., iron and malt extract, chop, bread and butter, a tumbler and a half of milk; lunch, 11:00 A. M., soup; dinner, 2:00 P. M., anything liked, with six ounces of Burgundy or dry champagne, and at the end one or two tumblers of milk; iron and malt; tea, 4:00 P. M., soup; supper, 7:00 P. M., malt, iron, bread and butter, usually some fruit, and two glasses of milk; late supper, 9:00 P. M., soup; 10:00 P. M., aloetic pill. At 12:00 noon, massage for an hour. At 4:30 P. M., electricity applied for an hour.

Sixth Week: Soup and wine were dropped, iron lessened one-half; massage and electricity only on alternate days; 1/30 of a grain of strychnin sulphate thrice a day at meals (continued for several months).

Ninth Week: Milk reduced to a quart. All mechanical treatment discontinued.

Result: Gain in flesh about face in second week. Weight rose in two months from 96 to 136 pounds; gain in color equally marked. On thirtieth day patient had normal catamenial flow after five years of failure to menstruate. Ninth week, drove out. Cure complete and permanent.

In milder types of neurasthenia, partial rest, diet and diversion is recommended: such a schedule should be outlined so as to fill and occupy most of the patient's waking hours. The one described by Dr. M. Allen Starr is

very satisfactory, with slight changes to suit the individual patient.

SAMPLE SCHEDULE FOR PARTIAL REST CURE

(M. ALLEN STARR).

8:00 A. M.—Small cup of coffee, with hot milk; or black coffee, if preferred. Bedford magnesia or Hunyadi water.

8:15 A. M.—Morning toilet.

8:30 to 9:00 A. M.—Breakfast: Fruit, cereal with cream, eggs, bacon or fish, hot milk or cocoa.

9:00 to 10:00 A. M.—Rest, letters read by nurse, or patient; after 9:30, glass of water.

10:30 to 11:00 A. M.—Bath; large bath towel under patient; blanket over patient. Nurse to bathe each part with soap and tepid water, or give patient a salt rub or pack in place of bath with salt water affusion.

11:00 to 11:30 A. M.—Glass of milk or kumyss, or hot broth, or cocoa. Rest.

11:30 A. M.—Get up and dress for the day.

12:00 M.—Drive or walk.

1:30 P. M.—Lunch: Soup, steak or chops, with vegetables; salad, baked apple or fruit.

2:00 to 3:00 P. M.—Rest quietly, lying down, relaxed, but not undressed, glass of water.

3:00 to 4:00 P. M.—Walk, drive, or see friends. Glass of milk or beef tea; undress.

5:00 P. M.—Massage, at first gentle, later Swedish movements, or wet sheet pack, or physical culture exercises.

6:00 to 6:30 P. M.—Rest, alone, lying down.

6:30 P. M.—Dress for dinner. Glass of water.

7:00 to 8:00 P. M.—Dinner: Oysters, soup, fish, game or chicken, vegetables of any kind, salad, cheese, or fruit. No wine or coffee.

8:00 to 8:30 P. M.—Rest.

8:30 to 10:00 P. M.—Reading, or games.

10:00 P. M.—Bed, preceded by spinal douche, or drip sheet. Cascara tablet, or 5 minims (0.31 c.c.) of fluid extract; glass of hot milk, without or with trional, as required.

Crounotherapy.—Since *toxic* influences exert a distinctly unfavorable provocative etiological influence on neurasthenia, it is all important to combat them. In all cases where there is constipation, intestinal toxæmia, intestinal putrefaction, focal infection, fatigue, headache, insomnia vagotonia, sympatheticotonia and hepatic insufficiency, it will be necessary to stimulate the hepatic functions and secure free elimination through the bowels and bladder. Successful *detoxication* and elimination are most essential and can be secured through the administration of a natural sodic, magnesian, sulphated mineral water, such as the Bedford Magnesia water (taken hot). This is far preferable to ordering such drugs as cascara, aloin, jalap, ox-gall, etc. Sajous, of Philadelphia, recommends sending such patients to suitable spas for an annual *detoxication*. Of course, physical therapy is always advantageous, as carried out in all well regulated sanatoria.

Drug Treatment.—Strychnine is the best of the tonic drugs, but to secure the maximum

7. Dietotherapy, Vol. II, p. 549, D. Appleton & Co.

benefit it must be prescribed in the largest dosage the patient will bear, which is an excess of the dosage usually given of 0.002 or 0.003 gram (1/30 to 1/20 grain) a day. Sajous says, "Give as much as 0.006 to 0.009 grams (1/10 to 1/7 grain) daily until the maximum of tolerance is shown by manifestations of the 'physiological limit,' which is slight inebriation and stiffness of the legs." Rapid habituation of the drug occurs, so it is necessary to progressively increase dosage, and since the drug is eliminated in about four hours, it can be administered about three times daily; other tonic remedies may be combined with strychnia. There is every advantage of giving iron and sodium cacodylate hypodermically. Other drugs, as much for suggestion as for therapeutic action, are valerian, sumbul, belladonna, amyl valerate, and such hypnotics as barbital and carbromal usually form the requirements of drug treatment.

Massage is a valuable adjunct to the full "rest treatment," and may be general or local, as the physician may desire, to exert soothing or stimulating effects. In its milder form of application, massage "produces a distinctly soothing effect upon the central nervous system, stimulates the flow of blood and lymph, furnishes gentle exercise to the musculature, stimulates cutaneous activity, causes increase of the red blood cells, and produces decided physical reactions." After the patient begins to gain in weight, more vigorous massage may be employed, and stimulating gymnastics or Swedish movements may be used.

Balneotherapy.—Thompson⁸ advocates treatment at spas where general hydrotherapeutic methods are available. He advises the application of the Scotch douche four to five minutes, alternating with hot and cold. If the patient is too weak for the Scotch douche, a cold wet pack is soothing and, applied at night, often is sufficient to overcome insomnia. Osler⁹ advocates the use of the wet pack in sleeplessness, saying, "it is the best remedy in insomnia." In the hydiatic treatment of the neurasthenic states, the mildest balneotherapeutic measures are, as a rule, the best. Osler, Hinsdale, Barker, Pope, Baruch, and others warn against the use of violent stimuli, such as very cold, very hot, or the prolonged applications of either, as well, also as against vigorous

friction, which may produce marked depression or even shock.

Soothing Balneotherapy.—Tepid or warm sponge baths, 95°F. (35°C.), applied from head to foot, exert a soothing effect. Dry the patient without much friction, and follow with an alcohol rub. The full tube bath at 90°F. (32.2°C.), may be given instead, duration from five to ten minutes, followed by gentle friction and a warm dressing gown. If patient shivers, shorten duration of bath. A warmer bath may be given next morning. The wet pack first stimulates and then sedates; the stimulation is only temporary, being followed in a few moments by its soothing effect. The bed is prepared with a rubber sheet, over which is spread a dry double blanket; a sheet soaked in water at 85°F. (29.4°C.), is laid over the blanket. The patient, disrobed, is placed upon the wet sheet and completely enveloped in it; it is snugly fitted to his skin so as not to have air spaces between the legs, nor around the arms and arm-pits, as this would cause chilliness, which should be avoided. A warm dry double blanket is now wrapped snugly around the wet sheet from the patient's feet to his neck, and a couple of dry blankets thrown over the patient. A hot water bottle is placed at the patient's feet, and a towel squeezed out of water at 95°F. (35°C.) is placed around the head. Duration of the pack is twenty to thirty minutes. The drip sheet bath is given with patient standing in a tub containing just sufficient water at 100°F. (37.8°C.) to reach the ankles; a dripping sheet taken from water at 80°F. (26.7°C.) is then shrouded around the patient and brisk friction over the sheet is applied. The nurse manipulates at the back while the patient rubs his chest and abdomen; the duration of this is two minutes, followed by a dry sheet friction as before. The patient is then hurriedly and briskly rubbed with warm towels and put to bed. This is given mornings and evenings.

The usual prescription at the Bedford Baths is: Electric cabinet bath almost to point of perspiration; then the circular douche, 95°F. (35°C.), one-half to one minute; this is followed by the fan douche, 75°F. (23.9°C.), twenty pounds pressure, five to ten seconds.

Nothing's ever lost by trying;

Nothing's ever gained by sighing.

—Selected.

8. Thompson, W. Gilman—Practice of Medicine, D. Appleton & Co.

9. Osler, Sir William—Practice of Medicine, Lea & Febiger.

President's Message

Physicians' Liability Insurance.

Some years ago, in an attempt to give more service to its members, the Medical Society of Virginia agreed to put aside one dollar out of each man's dues, and for that amount to be ready to furnish legal defense in all malpractice suits. I personally do not see how the Society ever expected to be able to furnish this service for this small amount, as the dollars a year segregated for this purpose would total less than \$1,800.00. Under the plan we adopted it was agreed to pay a maximum of \$300.00 for each case, and the lawyers naturally found it possible to get this maximum in most cases. At this rate it is apparent that we could only furnish legal defense for six men a year out of our whole membership in the State. On the other side, upon investigation I have found there had been an average of six suits during each of the last three years brought against the members of the Norfolk County Medical Society, which would have more than used up the total amount at the disposal of the State Society had these men not personally carried liability insurance.

The truth of the matter is that claims for damages against physicians are increasing, and increasing rapidly, as there seem to be many people who think it better to attempt to get money out of their doctors rather than pay the doctors' fees and this does not seem to depend at all upon the success or quality of the services rendered. As a result the Medical Society of Virginia found that it could not possibly render the service desired for a dollar a year and had to stop furnishing legal defense for such claims after the 31st of December, 1928. The Medical Society of Virginia is exceedingly sorry to have to take this step, but the Society would have soon been bankrupt if it had continued to furnish \$300.00 for each case for legal defense.

The doctors practicing in the cities have for years protected themselves by taking out insurance to furnish them legal defense and pay damages in suits for malpractice. Certain insurance companies have gone into the business of furnishing this protection, which will cost the individual man \$15.00 a year for a policy

covering legal defense and when necessary a maximum of five thousand dollars for damages in one case, with a total of fifteen thousand dollars a year. Indeed many men are taking our policies with larger limits, as a doctor is now considered to be an easy source for ill-gotten gain, both by certain patients and by some more or less irresponsible lawyers.

The insurance companies, however, will give a reduced rate to medical societies provided a sufficient number of the members of such organizations make application for this insurance. Mr. Winfrey at our Society's office in Richmond took up this question a few years ago and one company offered the members of the Medical Society of Virginia a rate of \$12.50 for such a policy, provided 1,001 members take the insurance. This does not mean that that many new policies will have to be gotten, as 750 of our members are already insured in that company. (I hope, however, no one will think I am writing as the agent for this company for I am merely trying to set forth the growing necessity for Malpractice Insurance.)

I feel that it is really absolutely necessary in these changing times for medical men to carry Malpractice Insurance just as we practically all carry fire insurance on our houses, as the danger of malpractice suits is apparently fast becoming as great as the danger of fire. Insurance is merely a form of cooperation in which each person puts in a certain small amount, forming a club for the benefit of those who get into trouble. A regular company can take care of such business more efficiently and economically than a local group or society, and for that reason we use such companies for our fire insurance. It will save us money to get a group insurance policy through our Medical Society, but the main point is that a doctor now really cannot afford to be without some Malpractice Insurance, as suits are being brought for the most trivial and impossible matters, and no doctor is at present safe from the peril and annoyance which come from such suits.

CHARLES R. GRANDY, M. D.,

President, Medical Society of Virginia.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Continuation Education for Practitioners.

It cannot be considered improper nor boastful for the Medical Society of Virginia to take just pride in its Continuation Educational work for its members. It would be as absurd, as it would be untrue, to believe that all of the present increased interest in after-graduation education, could be attributed to the work of its Clinical Education Department, but nevertheless, it is confidently believed that this work has been a great incentive in calling the attention of the constituent member societies to the necessity of keeping their individual members in step and in professional thought with modern advances.

This is the day for the establishment of "Priorities," and our State Society certainly has the enviable distinction of having been among the first of the medical groups in the United States, and the first State Medical Society in the South to inaugurate this work, and it is with great pleasure that it is noted that similar interest is being manifested now in our Southern States by the physicians through their State Medical Societies.

The South Carolina Medical Association has just held a successful clinical week at the Medical College of South Carolina in Charleston.

The Medical Association of Georgia has likewise put on a program of a week of Post-Graduate Medical instruction, the State Board of Health, the Extension Division of the University of Georgia, the Medical Department of the University of Georgia, and the Emory University, School of Medicine, cooperating.

Arrangements have been made for Post-Graduate courses at Cordele, Bainbridge, Rome, Lagrange, Waycross and Cornelia. At each of these cities, the program noted below will be followed:

MONDAY—*Diagnosis and Care of the Tuberculous*—Dr. E. W. Glidden, Superintendent State Tuberculosis Sanatorium.

Mental Hygiene—Mr. Austin E. Edwards, Professor of Psychiatry, University of Georgia.

TUESDAY—*Diseases of Children*—Dr. W. A. Mulherin, Professor of Pediatrics, University of Georgia.

WEDNESDAY—*Pneumonia, Chronic Abdominal Conditions, Diabetes Mellitus*—Dr. Cyrus W. Strickler, Professor of Medicine, Emory University.

THURSDAY—*Cardio-Renal Vascular Diseases*—Dr. E. E. Murphy, Professor of Internal Medicine, University of Georgia.

FRIDAY—*Our Mental Defective Problems*—Dr. John W. Oden, Superintendent Training School Mental Defectives, Gracewood, Augusta, Georgia.

Your Laboratory and How to Use It—Mr. T. F. Sellers, Director of Laboratory, State Board of Health.

Diagnostic Clinics each day. Bring your cases."

The Emory Medical Alumni Clinic Week was held in Atlanta, June 9-13, inclusive.

At the last annual meeting of the Southern Medical Association, a committee, with Dr. John H. Musser, Department of Medicine, Tulane University, New Orleans, as Chairman, was appointed to consider the feasibility of the Association sponsoring Post-Graduate education in the larger cities of the South under the direction of some prominent teacher, and continuing from four to six weeks in each city selected.

All of these evidences of increased interest in professional education, and others that might be noted, are really noteworthy, and should be heartening to the profession of Virginia, which is pleased to have been one of the prime movers in this great and needed educational work for the profession.

It may now be the time to say that the present work and the future hope of the Department of Clinical Education for Virginia is ultimately all directed toward the realization of a vision that seems to be materializing, because of awakened professional interest, and that is in brief, that the Commonwealth of Virginia, at the request, and with the aid and cooperation of the Medical Society of Virginia, shall sponsor a movement whereby each year, the University of Virginia and the Medical College of Virginia, together with a selected local faculty, shall provide at least a four weeks' Clinical and Educational extension course at four selected centers

throughout the State, thus giving every doctor who has the ambition to perfect himself in his profession, the opportunity to do so.

This is no idle dream, unworthy or impossible of realization, for its accomplishment will be the only answer to the slow but silent encroachments of State and social medicine, as well as an increasing mortality list in certain diseases in certain sections.

In educational matters, our State has been ever kind to its youth, but the day has now come when it must and will have to look to the continued education of its physicians, and the resultant continued good health of its citizens, so that our mortality lists in no disease shall shock or alarm a critical competitor.

The doctors, as a class, are willing to do their part—let the citizens highly resolve to demand that they shall be aided in their humanitarian and professional endeavors.

"The half of knowledge is to know where to obtain knowledge."

Scheduled Meetings

—On August 12th, at 8:00 P. M., at the home of Dr. W. O. Bailey, Secretary, Aldie, Virginia, the Loudoun County Medical Society will hold a meeting with Dr. Chas. R. Grandy as principal speaker. Dr. G. F. Simpson, Purcellville, is President of this Society.

—In September, the Clinch Valley Medical Society, Dr. J. B. Wolfe, Coeburn, President, will hold its Fall meeting.

—On Tuesday, September 30th, beginning at 2:00 P. M., a clinical meeting will be held at the time of the dedication of the new Medical Arts Building in Petersburg, under the auspices of the Post-Graduate Medical Society, Dr. Joel Crawford, Yale, President.

—On October 2nd, 3rd, and 4th, the University of Virginia will give a course of Post-Graduate clinics.

—On Tuesday, November 18th, beginning at 2:00 P. M., a clinical and scientific meeting will be held at Burkeville with Dr. W. H. Venable, Superintendent and Medical Director of the Piedmont Sanatorium, and the Post-Graduate Medical Society, cooperating.

Information

All members of the State Society are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Acting Executive Secretary, Mr. George

W. Eutsler, P. O. Box 707, University, Va., or to the Chairman of the Department of Clinical Education, 5 East Franklin Street, Richmond, Va.

Miscellaneous

Crippled Children's Work in Virginia—Proposal of a Plan.*

By THOMAS F. WHEELDON, M. D., Richmond, Va.

INTRODUCTION

The following information and ideas are based upon a study of this work with its practical application over a period of seven years in the conduction of orthopedic clinics.

The conduction of these clinics has brought about a most pleasant coordination with medical, educational and social agencies and has proven that, under an efficient plan, based on the crippled child as a unit, the various agencies will work in harmony toward the accomplishment of one aim. That aim is as follows:

That no plan for the care of the crippled children is complete nor can successfully gain its purpose unless the crippled child is accepted as a responsibility from the time he is found until he is physically rehabilitated, educated or trained in a vocation and placed in employment whereby he at least must be made self-sustaining and in a position to care for members of his family as soon as possible.

It is further emphasized that no plan can be successful that does not provide a system whereby the child, once having become registered, will not be lost sight of until he has completed the above through consistent, painstaking follow-up care, though that may require the rest of his life.

HISTORY

It had been my good fortune to have been studying the methods of the care of the crippled child in the northern centers and western centers and in the south for several years when by coincidence, one day in November, 1922, ten indigent children were brought to my office by ten different agencies operating individually from one locality in the state. On that particular afternoon, in addition to the children, at least an equal number of adults were present and it occurred to me how futile it was to expect through the long years to come that

*Submitted to Commission on Under-Privileged Child Work. Senator E. L. Kendig, Chairman, Mr. Frank Bane, Secretary.

the interest that prevailed that afternoon would unabatingly continue to see that these children were brought regularly over this long distance for treatment and it occurred to me at the same time how easy it would have been for me, one individual, to have gone to that locality of a hundred miles distance and to have seen these same children in a convenient place, thereby not only saving the expense and trouble of transporting these children to my office, but also possibly seeing, at the same time, many others who were not fortunate enough to have been provided the necessary means of getting to an orthopedic surgeon.

Ways and means were investigated at that time and through the State Department of Rehabilitation it was decided to have a demonstration clinic held and South Boston was chosen as the point for holding this. At that time, no other agencies except the Rehabilitation Department and myself were involved.

A field worker was sent to Halifax County and out of a population of something over thirty thousand, by thorough investigation, thirty-three crippled children were found. By everyone in that community, it was felt that this was the total number of crippled children that needed treatment.

On the 26th of January, 1923, a clinic was held in South Boston and, of the thirty-three crippled children found, twenty-three came to the clinic, although there was a blizzard raging on that day. (I bring out the fact that a blizzard was raging on that day to show that the patients will come to a clinic if it is held in their own locality, even though they have to experience inconvenience.)

Several members of the local Kiwanis Club of South Boston were present and they had helped actively in getting some of these children to the clinic and, quite spontaneously, these men saw that, in order to have proper treatment, it would be necessary to arrange for an organization in that locality to see that this was done. As a result it was decided that this clinic would be made a permanent one under the sponsorship of the Kiwanis Club of South Boston and that it be held monthly. The clinic has been held monthly ever since.

Of the twenty-three original cases brought to the clinic, everyone at present is either going to school or has completed his education or training and is now doing his part in the community. Since that time the clinic has grown to something over eight hundred in-

dividual cases in which a separate, permanent record of each case is held.

Since that time clinics have been established and conducted by me regularly in Danville, South Boston, Chase City, Victoria, Emporia, Lawrenceville, Courtland, Hopewell, Petersburg, and Richmond. At present the average monthly attendance at these clinics amounts to about five hundred separate individual cases. The total individual separate cases under treatment in these clinics amount to about three thousand and five hundred. The expenditure for the care of these cases has amounted to about \$40,000 per year. This has been provided through various sources but does not include any money received from the state.

METHOD OF OPERATION

In the establishment of a clinic a census is made and centers picked out on the following points:

1. Number of cripples known and available for treatment to start with.
2. Accessibility of the point, based on roads, bus lines, railroad, etc.
3. Support of a definite local organization to sponsor the work.
4. Presence of cooperating agencies in finding and stimulating the crippled to come to the clinic, conduction of the clinic and following up the work of the clinic.

After a clinic is established, cases are brought to the clinic by various agencies whether they may be interested individuals, parents, religious organizations, etc., and cases are examined there. At the clinic, necessary equipment is, as a rule, provided by the sponsoring agencies and housed in suitable rooms, usually necessitating a waiting room, one or two examining rooms, and a treatment room.

Upon entering the clinic a full medical history is taken of the patient and a record filled out as to the financial standing of the patient. This information is gotten from the patient himself. The card carrying this information is then turned over to a committee and the worthiness of the case is passed on by this committee at the first visit and signed by responsible parties in that locality. Examination is then made of the patient and the orthopedic treatment laid out. If the case is to be hospitalized, arrangement is made for this case to be sent to the hospital and operated upon and sent back to the community under the supervision of his local physician as soon as

possible, transportation being in the meantime provided.

As only about one-tenth of the cases need to go to the hospital, this leaves nine-tenths which will receive their treatment in a clinic which may consist of procedures from corrective exercises and muscle training given by a physiotherapist, to the application of braces or plaster casts. The work in the next clinic will then consist of the examination of the new cases, further examination of old cases, treatment given in the clinic, and the observation and further laying out of treatment for cases that have been to the hospital.

After a period of time, certain cases will be able to be taking on new activities in life so that during the treatment immediate vocational guidance is instituted and plans are made whereby the patient, as soon as possible, is lined up either to continue his school work, to enter school if he has not been there before, to enter training for a trade if he has sufficient education and cannot return to school, and to be given advanced education where possible. At the same time various leaders are thrown out looking forward to the time when these individuals will need a position and various possibilities of employment collected.

In this way a full follow-up of each case as a unit is accomplished, and already over a period of only seven years we now have at least five hundred individuals who are self-supporting, active adult citizens of the community. As time goes on, of course, we are continually adding to this number. At the same time the treatment of all the other cases is being carried on, nor are the cases that are now self-supporting dropped, as we find that continued follow-up of them gives better results from a physical point of view and also keeps them interested in making a success in life. This then would explain the physical, social and educational care and development of the case.

Along with the clinics there are many advantages to be derived which have arisen incidentally: First; each clinic really becomes a health educational center and from it has radiated information whereby hundreds of cases have been referred to other clinics or physicians for the care of conditions which would otherwise have been neglected.

I give, for example, the care of tonsils, teeth, congenital deformities such as cleft palate, etc. Second, the cases that come to the clinic

become familiar with the fact that something is really being done to help them and it makes it easier really to accomplish it with the other people that come in contact with them. I find it easier to put over a health program in communities where orthopedic clinics are held due to their appeal to the public. Third, there is a great social benefit from these clinics in that many people are brought in contact with various phases of life, who otherwise would be in ignorance of such things. We have noted, for instance, that children who first come to the clinic are soiled and unkempt and as time goes on improve their appearance and demeanor at the clinic, due to their contact with other cases and their desire and pride to make a splendid showing.

We have not found it difficult to obtain the cooperation of existing agencies in this work and one of the most important factors has been the almost unlimited assistance from the local physicians.

DECENTRALIZATION VERSUS CENTRALIZATION

From the foregoing plan it would readily appear that it is much more efficient to take care of cases in the local community than to attempt to send all cases to a central hospital. It is, of course, understood that a central hospital of a limited size should be provided for the care of cases needing long hospitalization, but as these cases are very much in the minority, no extravagantly large hospital seems necessary. In addition to this, sufficient teaching facilities for the medical students are desirable, but a hospital of the sort above described would easily take care of this.

I advance the following reasons why it is more efficient to attempt a plan as described for the provision of clinics in the localities than to expect to provide a hospital to take care of all these cases.

1. For every thousand children that come to a clinic, only about one hundred need to go to a central hospital.

2. If hospitalization is arranged for all cases possible at the hospital near the local clinic, practically all of these cases can be hospitalized. Where, if cases must be sent some distance to a central hospital, it is found that only about twenty-five of the hundred go. In other words, if only a central hospital is furnished, for every thousand children that can be taken care of at the clinic, only about

twenty-five can be taken care of if they must be sent to a central hospital.

3. It is more economical to care for crippled children in localities because the hospitalization which may extend over a period of several weeks in a central hospital can be reduced to a period of several days in a local hospital because of the after care which may be continued in their homes. In addition to this, the expense of transportation is eliminated not only for the patient but also for the companion who must accompany the child to the hospital and go for him when he is ready to go home.

4. A child is kept under his own environment at home if cared for through the local clinic and does not become estranged from his family. He is also cared for under conditions which he is used to and is not made to feel "out of part" so to speak. This frequently occurs in patients sent to the hospital over a period of time and they are never quite satisfied thereafter under the same condition at home as before he left.

5. The interest of the local doctors is increased and their cooperation secured by having the work in the local clinics.

6. The interest of the local agencies is magnified in an inestimable manner by having the members actually see the work go on.

7. The situation of having children sent to the hospital and left there is eliminated by having the clinic at home. This has occurred in several instances and it has become impossible to return the children to their own localities, they becoming definite state wards from that time on.

8. An orthopedic surgeon is furnished to the locality which would otherwise not be available.

9. The education of the children can be carried on through the local institutions and frequently the time lost from school is so short that the child makes it up with no difficulty.

10. Cases accepted through the clinic receive support from various people in the locality to such an extent that when they have completed their education and their treatment, they are given jobs that they can perform. It is easily seen that no one locality surrounding a central hospital could consume and supply jobs for the output of all the crippled children of the state even though it be a town of several hundred thousand.

An orthopedic hospital is essentially a sur-

gical hospital and is very expensive to operate and unless some active treatment is being conducted in a case, it is a waste of money to allow the case to remain in the hospital simply for observation or for treatment that could be carried on equally well or better in their own locality. Neither should the hospital be a boarding home for crippled children, as the expense of the initial outlay and upkeep of such an institution is far in excess of that necessary for the care of such children.

PLAN

I would propose that plans be adopted for the care of the crippled child in the State of Virginia, that would make the crippled child the unit of endeavor. I would establish primarily clinics over the state for these cases. As each case comes to the clinic, I would suggest that a thorough investigation of the case be made and, after due investigation, the worthy cases be accepted for treatment under the sponsorship of the state. I would then provide for these children, necessary orthopedic equipment, hospitalization where necessary, in their own localities if possible, follow-up care, education, vocational guidance, training and placement in employment. This would establish a program whereby each case would be carried from beginning to completion, though it might necessitate the observation of this case for many years to come. The child once having been accepted, however, would then be followed through by the same organization.

In such a plan all cases would be referred to the orthopedic surgeon who conducted the clinic in that locality for examination and turned over to him for treatment.

Should a case necessitate hospitalization at a central hospital, the case would be returned to him on discharge from that hospital to his complete care, providing at the same time that if the surgeon is in residence in the location of the central hospital, he be allowed to conduct the care of his case in the hospital. In this way the treatment would be his responsibility from beginning to end. I should also provide that, in the event a case was sent to a central hospital direct, before accepting the case the orthopedic surgeon of the locality be apprised of this fact and that he be allowed to be kept informed as to the procedures at the hospital until it be turned over to him

again at the clinic in the locality from which the child came, insofar as our experience with these cases will enable us to draw a decision.

I would feel that the Board of Public Welfare would be the department to act in heading up such an organization. As the state has been allocated in divisions and each orthopedic surgeon in the state has his division already allotted to him, and has been working in this field, this is a matter that has already been adjusted.

It is Worth What it Costs.*

By HERBERT L. WILLETT, JR., Washington, D. C.
Associate Director, Gorgas Memorial Institute.

I have just had my annual health audit and because people constantly ask what that means I am going to use myself as an illustration. This is what happened.

I walked into the office for my appointment and gave the doctor my health audit blank, carefully filled out. That included such matters as diet, sleep, exercise, weight, habits—the things he needed to know in order to get an adequate picture of me. There was just one special "symptom" I wanted to talk about, an occasional lameness. The doctor made a note of it.

Then I discarded some clothes, lay down on the table. Eyes, teeth, sinuses, ears, throat, lungs, heart—he looked and listened and tapped from top to toe, dictating comments to his secretary. The lameness came in for a good deal of study of how I could bend and twist. Blood pressure, pulse, blood count, urine analysis. Everything was carefully recorded.

By the time I was dressed the reports were typed and on his desk—the health blank, what I had told him, what he had found, what the laboratory tests showed. Then he analyzed them.

"Internally sound, no further tests needed. Now about your diet. You'd better—" just a few simple suggestions. "You don't exercise enough"—and a few more suggestions. "About your lameness. I'm going to let it go a month. If it troubles you again I will have it X-rayed. But no use incurring that expense unless we have to. Just—" and again a simple explanation of muscles and their care.

Then came the remark that struck me most.

*One of a series of articles prepared under the direction of the Gorgas Memorial Institute, which was organized to perpetuate the life work of the late Major-General Gorgas in preventing unnecessary illness. Headquarters of the institute are at 1331 G Street, N. W., Washington, D. C.

"After I've examined you a few times I'll know something about you. Diagnosis on a practical stranger (I only recently moved to Washington and met him) is always difficult. Next year and the next we'll compare your report with this year's. In the meantime watch the diet and exercise, and call me if anything ever seems to be wrong."

It took me only ninety-five minutes and now I *know* that I am still in good shape (yesterday I only thought and hoped so); I know a man to whom to turn in an emergency; I understand better why doctors sometimes hesitate to take responsibility for sick people who are strangers; I know I shall go back next year because the more I see of these health audits the clearer it becomes that it saves time, trouble and money to have bad symptoms detected before they become chronic or dangerous.

Mental Hygiene as Looked Upon by Some Leading Physicians at the Recent International Congress on Mental Hygiene, Washington, D. C.

Dr. Ralph Noble, a distinguished mental hygienist of Australia, says that "mental hygiene promises to be the greatest field of preventive medicine. It is a biological and social science which has already extended beyond the fields of psychiatry and the abnormal, and is now devoting its main attention to the normal, in order to prevent maladjustments rather than treat their results."

Dr. James R. Angell, President of Yale University, characterized mental hygiene as "a great positive social force" and said that he had been "more and more impressed by its widening recognition of the inevitably and fundamentally social implications of its program." "It may change its name," he continued, "it may inspire the creation of other related movements which ultimately may absorb much of its field; but whatever the designations applied to it, or to its successors, it has before it as its great and most significant contribution a program of positive health as wide as society itself. It is fundamentally an educational project and must work by educational methods."

"The field of mental hygiene," says Dr. Genil-Perrin, a leading authority on mental disease, of France, "ought to embrace all the manifestations of human activity. When man

acts, it is his mind that works. He can act correctly only if his mind is sound. In assuring the mental health of the community, mental hygiene will assure the advance of humanity. Mental hygiene is at present largely in the domain of psychiatry, but it will come to exceed more and more the limits of psychiatry, and eventually become the basis of all ethics."

W. F. D.

Proceedings of Societies

The Virginia State Board of Medical Examiners,

At its regular semi-annual session in Richmond, June 17th-20th, granted certificates to practice in Virginia to the following alphabetically arranged list of 115 doctors. Of these, 53 were graduates of the Medical College of Virginia and 40 graduates of the University of Virginia, Department of Medicine:

Dr. Walter Johnson Allegree, University, Va.
 Dr. Walter Edward Beattie, Alexandria, Va.
 Dr. Erwin Saul Berlin, Norfolk, Va.
 Dr. James Blaine Blayton, Washington, D. C.
 Dr. Henry Reid Bourne, Charlottesville, Va.
 Dr. DeRuyter Butler, Washington, D. C.
 Dr. Wilbert Enoch Butler, Richmond, Va.
 Dr. Calvin Howard Cain, Richmond, Va.
 Dr. Henry Lynn Colvin, Washington, D. C.
 Dr. James Glenn Cox, Dugspur, Va.
 Dr. John Randolph Copenhaver, Marion, Va.
 Dr. Clyde Crawford, Atlanta, Ga.
 Dr. John Wyatt David, Jr., Richmond, Va.
 Dr. Clement H. Davidson, Washington, D. C.
 Dr. Richard Edgar Dunkley, Stuart, Va.
 Dr. John Randolph Eggleston, Baltimore, Md.
 Dr. Ernest Scott Elliott, Independence, Va.
 Dr. Joseph Helms Farroe, Roanoke, Va.
 Dr. Frederick Oliver Fay, Richmond, Va.
 Dr. Enoch Raymond Fenton, Hinton, W. Va.
 Dr. Eugene Beverly Ferris, Jr., University, Va.
 Dr. William M. T. Forrester, Richmond, Va.
 Dr. Kester St. C. Freeman, Hanover, Va.
 Dr. Louise Fry Galvin, Richmond, Va.
 Dr. William M. Gammon, Bristol, Va.-Tenn.
 Dr. Thomas Lorimer Gemmill, Richmond, Va.
 Dr. John Henry Gilligan, Clifton Springs, N. Y.
 Dr. Edwin Foster Gouldman, Westmoreland Co., Va.
 Dr. George Tayloe Gwathmey, Jr., University, Va.
 Dr. James Lawrence Hager, Washington, D. C.
 Dr. David Lemuel Harrell, Suffolk, Va.
 Dr. Paul Swanson Hill, Wise, Va.
 Dr. Joseph Raymond B. Hutchinson, Washington, D. C.
 Dr. Robert Samuel Jacobs, Norfolk, Va.
 Dr. Simon Noe James, Washington, D. C.
 Dr. Thornton Seymour Jennings, Philadelphia, Pa.
 Dr. William Guy Justis, Abingdon, Va.
 Dr. Paul Kells, University, Va.
 Dr. Paul Dorsey Ketchum, Wayne, W. Va.
 Dr. James Peter King, University, Va.
 Dr. Marion Kirwan King, Haynesville, Va.
 Dr. Ben Halsey Knight, Richmond, Va.
 Dr. Southgate Leigh, Jr., Norfolk, Va.

Dr. Archibald A. Little, Jr., Meridian, Miss.
 Dr. Theodore R. Lovelace, Danville, Va.
 Dr. Paul Rutherford MacFadyen, Jr., Colony, Va.
 Dr. Ulus Walter Massie, Montvale, Va.
 Dr. Alexander Taylor Mayo, University, Va.
 Dr. Harold Hiques McLemore, Norton, Va.
 Dr. Marsh McCall, Richmond, Va.
 Dr. Walter Silas L. McMann, Richmond, Va.
 Dr. John Thorpe Metcalf, Richmond, Va.
 Dr. Maurice Albert Michael, Philadelphia, Pa.
 Dr. Elbert Terrill Montgomery, Richmond, Va.
 Dr. Earl Harrell Moody, St. Charles, Va.
 Dr. Elmer Richard Moorman, Winston-Salem, N. C.
 Dr. Heber Jones Morton, Keysville, Va.
 Dr. Frederick McC. Morrison, University, Va.
 Dr. Leslie Emerson Morrisette, Richmond, Va.
 Dr. John Ryan Myers, University, Va.
 Dr. Sigmund Newman, Richmond, Va.
 Dr. Richard B. Nicholls, Newport News, Va.
 Dr. Nathan William Newman, Richmond, Va.
 Dr. Zenas Barnard Noon, Richmond, Va.
 Dr. Robert Edwin Odom, Norfolk, Va.
 Dr. Herman Frank Oppleman, Richmond, Va.
 Dr. Edward Stewart Orgain, Richmond, Va.
 Dr. Mercer Cranor Parrott, Portsmouth, Va.
 Dr. John Edward Payne, Clarendon, Va.
 Dr. John Day Peake, Rockymount, Va.
 Dr. James Brooke Pettis, Richmond, Va.
 Dr. Prosser Harrison Picot, Richmond, Va.
 Dr. Daniel Brown Pierson, Jr., Narberth, Pa.
 Dr. Alfred Wayland Pinkerton, Bayonne, N. J.
 Dr. Morton Morris Pinckney, Richmond, Va.
 Dr. Samuel Byron Pope, Jr., Norfolk, Va.
 Dr. John Almer Poulson, Washington, D. C.
 Dr. William Thomas Pugh, Richmond, Va.
 Dr. William Orgain Purdy, Brodnax, Va.
 Dr. Frank Francis Ramey, Richmond, Va.
 Dr. Benjamin Watkins Rawles, Jr., Richmond, Va.
 Dr. Alfred Chambers Ray, Jr., University, Va.
 Dr. Edward Franklin Reaser, Washington, D. C.
 Dr. Paul Houston Revercomb, Covington, Va.
 Dr. Emmett Vynston Richardson, Marion, Va.
 Dr. Herman M. Richardson, Richmond, Va.
 Dr. Harold Lee Riley, Jr., Richmond, Va.
 Dr. Charles William Rodgers, Jr., Washington, D. C.
 Dr. William Hamilton Roper, Haymend, Me.
 Dr. Samuel Leonidas Ruker, Jr., Moneta, Va.
 Dr. Carl Fritz Shelton, Wheeling, W. Va.
 Dr. Lewis Benjamin Sheppard, Glen Allen, Va.
 Dr. Emory Lee Shiflett, University, Va.
 Dr. Richard Franklin Slaughter, Jr., Baltimore, Md.
 Dr. Claude Brackette Smith, University, Va.
 Dr. George Edmund Stone, Bedford, Va.
 Dr. Blanche Tabor, Cherrydale, Va.
 Dr. Robert DuVal Jones, Jr., Norfolk, Va.
 Dr. Ogbon Napoleon Simmons, Washington, D. C.
 Dr. George Tucker Smith, University, Va.
 Dr. Sam Lester Tabb, Alexandria, Va.
 Dr. Meyer Vitsky, Richmond, Va.
 Dr. Allan Elliott Walker, Jr., University, Va.
 Dr. Kennon Christian Walden, Richmond, Va.
 Dr. Fred Jacob Wampler, Richmond, Va.
 Dr. Thomas Leonard Watson, Jr., University, Va.
 Dr. Clinton Howard Whitehurst, Richmond, Va.
 Dr. Louis Ervine Wice, Baltimore, Md.
 Dr. Ennion Skelton Williams, Richmond, Va.
 Dr. William Chalmers Wills, Nashville, Tenn.
 Dr. Edward Hollaway Williams, Richmond, Va.
 Dr. James Newton Williams, Richmond, Va.
 Dr. James Edwin Wissler, University, Va.
 Dr. Julian Howard Yeatman, Richmond, Va.
 Dr. Orin Ross Yost, Richmond, Va.

Second District Medical Society Organized.

At the request of our President, Dr. Charles R. Grandy, sent out to the members of the Second Congressional District on June 16th, a meeting of representatives from the societies of the Second Congressional District was called to order by our Councilor, Dr. F. C. S. Taliaferro on July 2, 1930, at the Elliott Hotel, Suffolk, Va., at 8:00 P. M.

The following representatives were present:

Dr. Chas. R. Grandy, Norfolk, Va.
Dr. E. C. S. Taliaferro, Norfolk, Va.
Dr. F. C. Rinker, Norfolk, Va.
Dr. E. T. Hargrave, Norfolk, Va.
Dr. R. B. Kennon, Norfolk, Va.
Dr. J. E. Rawls, Suffolk, Va.
Dr. Geo. Richardson Joyner, Suffolk, Va.
Dr. F. A. Ward, Suffolk, Va.
Dr. J. A. Grizzard, Drewryville, Va.
Dr. Rea Parker, Smithfield, Va.
Dr. R. L. Raiford, Franklin, Va.
Dr. H. H. Hunter, Whaleyville, Va.
Dr. W. C. Gibson, Suffolk, Va.
Dr. O. T. Yates, Suffolk, Va.
Dr. C. H. Dawson, Suffolk, Va.

An open meeting was held and expressions regarding the organizing of such a society were given by Drs. Grandy, Grizzard, Dawson, Raiford, and Rinker.

A committee of three was appointed to name the society and this committee reported favorably on the name **SECOND DISTRICT MEDICAL SOCIETY**. The name was voted upon and carried unanimously.

The officers of the society were then elected as follows: Dr. Geo. Richardson Joyner, Suffolk, Va., President; Dr. James A. Grizzard, Drewryville, Va., Vice-President; Dr. F. C. Rinker, Norfolk, Va., Secretary-Treasurer.

It was decided to hold the first meeting of the Society in Suffolk some time in the early Fall, the date of the meeting to be set by the President and committee on by-laws.

The organization of the Second District Medical Society was brought about through the efforts of our President, Dr. Grandy, as a means of post-graduate medical education.

F. C. RINKER, *Secretary*.

The Mid-Tidewater Medical Society

Held its regular quarterly meeting at Millers Tavern in the historic Arlington Lodge, July 22nd. In the absence of the president, Dr. H. H. Hoskins, Dr. R. D. Bates presided at a brief business meeting in the morning.

Delegates to the Norfolk meeting of the Medical Society of Virginia were appointed as follows: Dr. A. W. Lewis from King William; Dr. R. D. Bates from King and Queen; Dr. E. L. W. Ferry from Essex; Dr. O. L. Powell from York; Dr. M. H. Eames from New Kent; Dr. R. R. Hoskins from Mathews; Dr. James D. Clements from Gloucester; and Dr. H. H. Hoskins from Middlesex. In event a delegate could not go, it was requested that he designate an alternate from his county in his place.

Dr. P. E. Rossiter was recognized as a new member. He is at present in charge of the medical department of the Shipping Board Fleet in the James River. Dr. Blair Spencer was admitted to membership and recognized as a new member. Dr. Spencer conducts a rehabilitation camp for boys in Gloucester and made a very interesting report of his work there. Dr. Clarence Campbell, of Sparta, Caroline, was present and admitted to membership.

The following visiting doctors from Richmond were present and given honorary membership in the body: Dr. Frank S. Johns, senior surgeon of Johnston-Willis Hospital, Dr. Austin I. Dodson, attending urologist at St. Luke's and St. Elizabeth's Hospitals, Dr. Dean Cole president of the Virginia Tuberculosis Association, and Dr. H. Page Mauck, orthopedic surgeon.

The doctors of King and Queen and Essex entertained the members and visitors at a real Virginia dinner, which was fully enjoyed by all. The society will always be glad to meet at Millers Tavern when Drs. Ned Ferry, Tom Latane, Bob Bates, Seddon Cox and Newt DeShazo are an entertainment committee and Aunt Eliza is in the kitchen.

At the afternoon meeting, Dr. Mauck spoke on some of the common fractures which give troubles and the best ways to prevent serious disability. A general discussion of this paper was led by Dr. Hawes Campbell. Dr. Mauck replied to questions at the end of the discussion. Dr. Dodson presented the modern treatment of Neisserian infections in women, after which Dr. Harry Tabb, of Gloucester, opened the discussion. There were numerous talks on the subject which was concluded by Dr. Dodson.

A committee appointed at the morning session made a report on nominations for officers for the next year to be elected at the next

meeting. The report was accepted. The next meeting of the society will be held at Gloucester on October 28th, with Drs. Tabb, Spencer, Smith, Davis, and Clements a committee to arrange for the meeting.

M. H. HARRIS, *Secretary*.

The Loudoun County Medical Society

Held its regular monthly meeting at the Leesburg Inn, July 8th, at 8:00 P. M. Dr. Martin B. Hiden, of Warrenton, Va., was host. Invitations were extended all doctors, druggists, dentists, and their wives, and registered nurses of both Fauquier and Loudoun Counties.

Dr. John A. Gibson, a vice-president of the Medical Society of Virginia, spoke upon the status of the country physician in general practice. He stated that referring a case to a specialist meant alienation of the patient, and resulted, when the patient became severely ill at home, in his former family doctor knowing nothing whatever of his constitutional idiosyncrasies.

Dr. J. E. Knight, councilor of the State Medical Society from the 8th Congressional District, read a lucid and comprehensive paper upon the benefits which accrue to the physicians, the public and the State and national societies from sensible and constructive organization in medicine, beginning with the county society as a basic unit.

Dr. N. G. Miller, of Purcellville, presented conclusive evidence that the Federal government is attempting through its reprehensible stool pigeons, to ensnare reputable and worthy physicians and druggists in the inflexible law of the Harrison Anti-Narcotic Law.

The following officers were re-elected for the ensuing year: President, Dr. G. Frank Simpson, Purcellville; vice-presidents, Dr. J. B. Hackley, Purcellville, and Dr. G. H. Musgrave, Leesburg; secretary-treasurer, Dr. W. O. Bailey, Leesburg.

W. O. BAILEY, *Secretary*.

The Post-Graduate Medical Society of Southern Virginia

Held its regular meeting in Emporia, Va., July the 15th, under the presidency of Dr. M. H. Tredway. Following dinner at 6 P. M., there was a symposium on Diseases of the Thyroid, in which Drs. Ruth Mason, Herbert Jones, Wright Clarkson, J. Bolling Jones, all of Petersburg, and Dr. Manfred Call, Richmond, were the principal speakers.

At the business meeting which followed the scientific program, the following officers were elected for the ensuing year. President, Dr. Joel Crawford, Yale; vice-presidents, Dr. H. G. Stoneham, Waverly, and Dr. W. W. Bennett, Blackstone; secretary-treasurer, Dr. Philip Jacobson, Petersburg, re-elected. Drs. T. F. Jarratt, C. S. Dodd, and W. D. Prince were elected to the Board of Censors and Drs. J. Bolling Jones, W. M. Phipps, and L. O. Vaughan, as the committee on Public Health and Legislation.

New members received during the past year are: Drs. W. H. Venable, Burkeville; T. H. Anderson, Lawrenceville; and Dr. Leta J. White, Petersburg.

PHILIP JACOBSON, *Secretary*.

The Northampton County Medical Society

Met July 2nd, at the Memorial Hospital, Nassawadox, Va., Dr. H. L. Denoon, Nassawadox, President, in the chair. Dr. A. A. Creecy, of the Buxton Clinic, of Newport News, Va., the invited guest, gave a most instructive paper on "Acute Specific Urethritis."

After the meeting the society entertained its guest at a banquet at the Maplewood Country Club.

W. C. HENDERSQN, *Secretary*.

Woman's Auxiliary, to the Medical Society of Va.

Constitution of the Woman's Auxiliary to the Medical Society of Virginia as Revised and Adopted at its Annual Meeting in Danville, Va., October, 1928.

CONSTITUTION

ARTICLE I—NAME

The name of this organization shall be the Woman's Auxiliary to the Medical Society of Virginia.

ARTICLE II—OBJECT

The object of this Auxiliary shall be to extend the aims of the Medical Profession through the wives of doctors to other organizations which look to the advancement of health and education. To assist in entertaining at all State Conventions, to promote acquaintance-ship among doctor's families, that closer fellowship may exist, and do such work as may

be assigned from time to time by the State Medical Society.

ARTICLE III—MEMBERSHIP

The membership of the Woman's Auxiliary to the Medical Society of Virginia shall be composed of the Women's Auxiliaries of the Counties which are recognized by their County Medical Society. The wives, mothers, daughters and sisters of all doctors shall be eligible for membership.

ARTICLE IV—OFFICERS

Section 1. The officers of this organization shall be a President, President-elect, four Vice-Presidents, three Directors, a Secretary, a Treasurer, a Parliamentarian. These officers with the exception of the Secretary, shall be elected every other year at the annual meeting, to serve for two years or until their successors are elected. The Secretary shall be appointed by the President for two years. All of the officers except the Secretary shall be elected by ballot unless there is only one candidate, when, by unanimous consent the ballot for that office may be cast by the Secretary.

Section 2. The term of office of the officers, with the exception of the President, shall begin at the close of the annual meeting at which they were elected. The term of office of the President shall begin at the close of the second annual meeting following the meeting at which she was elected. During the interim between her election and the time her term of office begins, she shall hold the title of President-elect.

Section 3. A Nominating Committee, consisting of five (5) members, no more than two of whom shall be members of the Executive Board, shall be appointed by the President at the regular Board Meeting previous to the annual meeting. It shall be the duty of this Committee to nominate a candidate for each office to be filled at the next annual meeting.

Section 4. A vacancy occurring in an office other than that of Secretary, shall be filled by the Executive Board for the unexpired term.

ARTICLE V—DUTIES OF OFFICERS

The duties of the officers shall be such as usually devolve upon such officers as are in accordance with the parliamentary authority adopted by this organization.

ARTICLE VI—MEETINGS

The meetings of the Woman's Auxiliary shall be held at the same time and place as the Medical Society of Virginia.

ARTICLE VII—EXECUTIVE BOARD

Section 1. The officers, the chairmen of Standing Committees, and the President of each County Auxiliary, or her alternate, shall constitute the Executive Board.

Section 2. A regular meeting of the Board shall be held immediately before and after each annual meeting of the organization. Special meetings may be called by the President.

Section 3. Five members of the Board shall constitute a quorum.

Section 4. The Executive Board shall have all power and authority over the affairs of the organization during the interim between its meetings, excepting that of modifying any action taken by the organization and provided that no debt or liability except for current expenses shall be incurred by the Board. The Board is authorized to transact business by mail if necessary.

ARTICLE VIII—DUES

The annual dues of each County Auxiliary to the State Auxiliary shall be twenty-five cents (.25) for each of its members. The annual dues shall likewise be twenty-five cents (.25) per capita to the National. Both shall be payable on or before October 15th, to the State Treasurer. A County Auxiliary in arrears for the annual dues shall not be entitled to representation at the meetings of the organization.

ARTICLE IX—DELEGATES

Each County Auxiliary shall be entitled to one delegate for every fifteen members or less, and for each additional fifteen members one additional delegate, these accredited delegates with the members of the Executive Board to form the voting body.

ARTICLE X—STANDING COMMITTEES

Such Standing Committees shall be appointed annually by the President as the Executive Board from time to time may deem necessary to carry on the work of the organization. Each Standing Committee, through its Chairman, shall submit a plan of work on or before August 1st of each year to the President for approval, and no work shall be under-

taken without such approval. Each Standing Committee shall report to the organization at the annual meeting.

ARTICLE XI—COUNTY AUXILIARIES

Section 1. A County Woman's Auxiliary to the State Medical Society shall be organized, if possible, in each County, provided such organization is approved by the County Medical Society. The object of a County Auxiliary shall be to promote the objects and interests of the State Woman's Auxiliary, and to do such other work as its County Medical Society may from time to time assign to it. Each County Auxiliary is authorized to make its own rules for the transaction of its business and the admittance of its members, provided such rules do not conflict with the rules of the organization or of the State Auxiliary.

Section 2. Each County Auxiliary shall send a report to the State Secretary on or before October 1st of each year, which shall contain the names and addresses of its officers and chairmen of Standing Committees and the number of its members.

ARTICLE XII—PARLIAMENTARY AUTHORITY

The rules contained in Robert's Rules of Order, Revised, shall govern this organization in all cases to which they are applicable and in which they are not inconsistent with the constitution.

ARTICLE XIII—AMENDMENTS

This Constitution may be amended at any regular meeting of the State Auxiliary, provided written notice has been sent each County Auxiliary not less than one month prior to said meeting.

News Item.

Mrs. Southgate Leigh, Norfolk, former president of the Woman's Auxiliary to the Medical Society of Virginia, was elected first vice-president of the Woman's Auxiliary to the American Medical Association, at its annual meeting in Detroit, Mich., June 23rd-26th. Mrs. Leigh also remains chairman of the standing committee on Organization.

The Truth About Medicine

In addition to the articles enumerated in our letter of May 29th the following have been accepted:

Carel Laboratories.

Alpha-Naphco.

Maltbie Chemical Co.

Ephedrine Nasal Jelly—Maltbie.

Mead Johnson & Co.

Mead's 5 D Cod-Liver Oil with Viosterol.

Merck & Co., Inc.

Pyridium.

Aqueous Solution of Pyridium, 1 per cent.

Pyridium Tablets, 0.1 Gm.

Pyridium Ointment, 10 per cent.

H. A. Metz Laboratories, Inc.

Elixir of Pyramidon.

Pyramidon Tablets, 1½ grains.

National Drug Co.

Ragweed Pollen Antigen—National.

Timothy Pollen Antigen—National.

Parke, Davis & Co.

Ephedrine Hydrochloride—P. D. & Co.

Capsules Ephedrine Hydrochloride—P. D. & Co.,
¾ grain.

Capsules Ephedrine Hydrochloride—P. D. & Co.,
¾ grain.

Thio-Bismol.

Ampoules of Thio-Bismol.

Pitman-Moore Co.

Siomine.

Siomine Capsules, ½ grain.

Siomine Capsules, 1 grain.

Siomine Capsules, 2 grains.

Siomine Capsules, 5 grains.

G. D. Searle & Co.

Ampules Mercurochrome—H. W. & D., 1 per cent,
10 c.c.

Ampules Mercurochrome—H. W. & D., 1 per cent,
20 c.c.

Nonproprietary Article.

Alphanaphthol.

FOODS

The following products have been accepted by the Committee on Foods of the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in Accepted Foods:

Nouron (Nouron Products Corporation, New York). The ingredients used in the manufacture are soy beans, whole wheat flour and egg yolk. It is claimed to be a nutritious, digestible and palatable food prepared especially for assisting in the gradual change from a liquid to a solid diet, as for weaning babies and for convalescents.

Merrell-Soule Whole Lactic Acid Milk Powder (Merrell-Soule Co., Inc., New York). It is made from fresh whole milk. It contains fat, 28 per cent; protein, 26.5 per cent; lactose, 32.5 per cent; mineral matter, 6 per cent; total acidity, 5 per cent; free lactic acid, 4.25 per cent; moisture, 2.25 per cent. It is prepared from pure whole milk inoculated with a culture of *Streptococcus lactis*. This product is claimed to have the value of freshly prepared lactic acid milk.

Jell-O (The Jell-O Co., Inc., Le Roy, N. Y., General Food Corporation, Successor). A mixture of pure gelatin, cane sugar, pure fruit flavor, fruit acid from grapes and vegetable color.

Carnation Milk (Carnation Milk Products Company). Cow's milk reduced to consistency of cream by evaporating in vacuum and then sterilizing. It contains the vitamins that any cooked milk is depended on to supply.

New Oats (Ralston Purina Co., St. Louis). It contains rolled oats and precooked rolled wheat. It is claimed to provide iron, phosphorus and the constituents of these grains in a form permitting rapid cooking.

Purina Whole Wheat Flour (Ralston Purina Co.,

St. Louis). It is composed of whole wheat. It is claimed that the product is rich in iron, phosphorus and other minerals.

Checker-Corn Flakes (Ralston Purina Co., St. Louis). It is claimed to provide flavor and variety appealing to the appetite.

Ralston Wheat Flakes (Ralston Purina Co., St. Louis). It is composed of whole wheat, claimed to provide nourishing food in appetizing form.

Ralston (The Whole Wheat Cereal) (Ralston Purina Co., St. Louis). It is choice hard winter wheat, containing the wheat embryo, with its vitamins. It is claimed that the whole wheat berry supplies the elements for healthy growth. (Jour. A. M. A., June 14, 1930, p. 1919.)

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Comprex Electro-Cautery and Diagnostic Light (Comprex Oscillator Corporation, New York).—A device for cauterization by means of electrodes which are electrically heated to the desired temperature. The device consists essentially of a transformer, designed to operate on either a 110 or 220 volt, 60 cycle alternating current circuit. The transformer is also tapped at such point as will give the desired voltage for the operation of a diagnostic light.

"Stoppollen" Air Filter (Davies Air Filter Co., New York).—A simplified portable filter which delivers dust- and pollen-free air. The apparatus is described as consisting of a cabinet rectangular in shape, which contains the filter screen, a pressure fan and an electric motor, and is so constructed as to fit into any sized window. The cost of operating the device continuously for twenty-four hours is about ten cents. Tests were conducted which demonstrated that the Stoppollen air filter was efficient as a means of keeping a room free from dust and pollens. (Jour. A. M. A., May 31, 1930, p. 1760).

PROPAGANDA FOR REFORM

The Sale of Sunshine Lamps to the Public.—The Council on Physical Therapy has taken the stand that a sunshine lamp sold directly to the public should be so constructed that the radiant energy emitted shall not differ essentially from sunlight. Furthermore, the advertising and descriptive matter pertaining to such lamps should contain no curative claims nor mention of specific diseases. The Council believes that the advertising should be more conservative: it is not convinced that human beings in health require the great amount of ultraviolet energy one is led to believe is the case from the advertising pertaining to some of the so-called sunlamps sold to the public. (Jour. A. M. A., June 14, 1930, p. 1918.)

A Statement to Manufacturers of Physical Therapy Equipment.—It has come to the attention of the Council on Physical Therapy that certain manufacturers make unscientific and unwarranted claims in advertisements that appear in publications other than those of the American Medical Association while advertising the same equipment conservatively in publications of the Association. The Council calls the attention of manufacturers to the fact that all advertising must conform to the requirements of the Council if the apparatus is to remain acceptable to the Council. (Jour. A. M. A., June 14, 1930, p. 1918.)

No Intestinal Antiseptic.—There is really no such thing as an intestinal antiseptic, if that term is defined as equivalent to disinfectant, there being no known influence capable of killing the micro-organ-

isms in the living intestine. If the term is defined to include inhibition of the growth and diminution in the number of intestinal microbes, then diet (milk diet in most adults) constitutes perhaps the most important influence of that kind. Mild mercurous chloride might qualify as an efficient drug with a tendency in this direction. Phenolsulphonates (sulphocarbolates) are worthless. (Jour. A. M. A., June 14, 1930, p. 1939.)

Yeast.—Yeast has so uncertain a laxative effect that it is hardly justifiable to class it among the cathartics. It might more appropriately find a place among the laxative diet factors alongside bran, honey and prunes. Its content of vitamin B makes it of specific value in skin eruptions due to vitamin B deficiency, such as those occurring in pellagra. That it is of much value in other skin troubles, such as acne or furunculosis, is doubtful. The history of yeast suggests that it has a therapeutic value, but that this value is slight indeed. (Jour. A. M. A., June 14, 1930, p. 1939.)

Book Announcements

Manual of the Diseases of the Eye for Students and General Practitioners. By CHARLES H. MAY, M. D. Thirteenth Edition, Revised. With 374 original illustrations, including 23 plates, with colored figures. William Wood & Company. New York. 1930. Price, \$4.00.

This book is written for the general practitioner and the student. Who is the general practitioner? Who represents in medical practice, today, the general practitioner? Is he the "family doctor"; is he the country doctor; is he the small-town doctor? What is the scope of his work? If he exists at all and is able to follow the line of activity in practice that the term indicates, he undertakes to attend medical diseases of his patients, he looks after, in a restricted sense, minor surgical conditions, he attends to the obstetrical requirements of his clientele; he looks after the urological disorders; in a limited way he gives attention to and treats the nose and throat diseases, the skin diseases and even the eye diseases of his patients.

It is for such a general workman that this book is written and it is to such a man the work may be very helpful. The book is small, containing some 450 pages, and it gives a concise and readable description of the eye and its diseases. Description of the anatomy and physiology and methods of examination precede consideration of disease. The disease of the eyelids, lachrymal apparatus, the orbit, conjunctiva, cornea, sclera, iris, ciliary body, and choroid are described and methods of treatment are laid down. Besides, here is given discussion of ophthalmitis, tumors, glau-

coma, diseases of vitreous, diseases of the lens, retina, optic nerve, disorders of vision, and the book closes with a few chapters on general optical principles and consideration of refraction as an accommodation and mobility of the eye and ocular therapeutics.

General practitioners of medicine may well read this revised, thirteenth edition of this book and place it in the library as a reference work for diagnosis and treatment of such cases.

A. G. B.

Physical Diagnosis. By RICHARD C. CABOT, M. D. Tenth Edition. Revised and Enlarged with Six Plates and 279 Figures in Text. William Wood & Company. New York. 1930. Price, \$5.00.

Cabot has been a prodigious worker in physical diagnosis. He has written during the past twenty years a great deal on this important subject. His work as a teacher in physical diagnosis has qualified him, in a peculiar sense, to assemble in 500 pages much of the accepted knowledge of this subject of physical diagnosis and with this to add the impressions, methods, opinions, and beliefs he has arrived at in his wide experience as a clinical teacher and practitioner. In the last edition of a work originally submitted to the public in 1905, he has revised the work, with the aid of a secretary. It is a well arranged book: approaching the subject by discussion of the body as a whole, he takes up the diagnosis of disease and conditions of the head, face and neck; the arms, head and back; the chest, its general diagnostic study; the pulse; the heart, its inspection palpation and auscultation, etc.; hypertension; diseases of the lungs, and pleural disease of the abdomen and viscera, bladder and rectum, the blood, joints and nervous system.

Practitioners may do well to read this practical treatise on subjects that arise in daily practice. Only by refreshing the mind by a review of medical conditions, treated by one so well experienced and qualified to present such matters in a readable fashion, can one "keep on his toes."

A. G. B.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1929. With Comments that have appeared in *The Journal*. Cloth. Price \$1. Pp. 81. Chicago: American Medical Association, 1930.

This is the volume in which the Council annually collects the reports on articles found

unacceptable during the year. This edition contains also several interesting preliminary reports on preparations which show promise but for which the evidence is not yet sufficient to justify acceptance by the Council.

New and Nonofficial Remedies, 1930. Cloth. Price, \$1.50. Pp. 481; xlviii. Chicago: American Medical Association, 1930.

The present edition contains all of the features that have in the past made *New and Nonofficial Remedies* such a reliable and efficient guide to the physician who wishes to inform himself on the newer medicinal preparations: logical classification of preparations, with authoritative articles on each class; complete and carefully written descriptions of preparations; elaborate indexes; and a useful cumulative list of references to the literature on articles not accepted by the Council.

Medical and Surgical Year-Book. Physicians Hospital of Plattsburgh. Comprising Wednesday Afternoon Invitation Lectures, Papers of the Cardiac Round Table, The First Beaumont Lecture. Collected Papers by the Staff. 1930. The William H. Miner Foundation. Plattsburgh, N. Y. Illustrated. Octavo of 322 pages. Cloth.

Clio Medica. A Series of Primers on the History of Medicine. **Medicine in the British Isles.** By SIR D'ARCY POWER, K. B. E., F. R. C. S. Eng., Honorary Librarian at the Royal College of Surgeons of England, Consulting Surgeon St. Bartholomew's Hospital, London. Editor: E. B. KRUMBHAAR, M. D. Paul B. Hoeber, Inc. New York. 1930. 12mo. of 84 pages. Cloth. Price, \$1.50.

Clio Medica. A Series of Primers on the History of Medicine. **Anatomy.** By GEORGE W. CORNER, M. D., Professor of Anatomy in the University of Rochester. Editor: E. B. KRUMBHAAR, M. D. Paul B. Hoeber, Inc. New York. 1930. 12mo. of 82 pages. Illustrated. Cloth. Price, \$1.50.

The Work of Blindness Prevention. By C. G. HENDERSON, Indian Civil Service, Retired. Blind Relief Association. Bombay. 1930. Pamphlet of 29 pages.

Contributions to Fox Ethnology—II. By TRUMAN MICHELSON. Smithsonian Institution Bureau of American Ethnology. Bulletin 95. United States Government Printing Office. Washington. 1930. 183 pages. For sale by the Superintendent of Documents, Washington, D. C. Price, 75 cents. (Cloth.)

Burns. Types, Pathology and Management. By GEORGE T. PACK, B. S., M. D., Fellow of the Memorial Hospital, New York; Formerly Professor of Pathology and Lecturer in Minor Surgery, the School of Medicine, University of Alabama, Member American Association of Pathologists and Bacteriologists, etc. And A. HOBSON DAVIS, B. S., M. D., Instructor in Pathology, University of Alabama. J. B. Lippincott Company. Philadelphia and London. 1930. 60 illustrations. Octavo of 364 pages. Cloth.

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AUGUST

No. 5

Editorial

MEDICINE IN VIRGINIA in the SEVENTEENTH CENTURY

By

Wyndham B. Blanton, M. D.

Under Authorization of the Historical
Committee of the

Medical Society of Virginia

Publishers: The William Byrd Press, Inc.,
Richmond.

History of Medicine in Virginia in the Seventeenth Century.

The Medical Society of Virginia has long felt that there should be a real effort made to write the history of medicine in Virginia. It was known that there was necessarily a wealth of medical lore in the history of the establishment of the oldest settlement and colonization of English speaking people on this continent; that in the implantation and life of the settlers and groups of immigrants following through succeeding years, there must necessarily be a great story of medical interest, unwritten and unsung. It was believed that a search among the records of the settlers, in letters, reports to home government, pamphlets of experiences of travelers and adventurers, in court and military records of colonial people, and history, would reveal a spectacular and thrilling story of the conflict of Disease and Colonization.

Following upon several unsuccessful attempts to get this big story out of the past, the Medical Society of Virginia, fortunately, in

1926-27, created a historical committee, manned by a personnel who caught this vision of the past. This Committee set to work to bring to light and to put in written form the part played by Medicine in the settlement and colonization of Virginia and, subsequently, the Commonwealth or State of Virginia. This Committee, again fortunately, chose of its number one who had disclosed abilities as a historiographer and placed him in charge of the research and the authorship of the volume.

And now Dr. Wyndham Bolling Blanton's work is before you, and you will be proud of his workmanship.

THE BIBLIOGRAPHY

After one notes the skill of the author, one, in a work of this sort, next naturally turns to his bibliography and scans with keen interest the make-up of his "source" of information. For no such work as this has been written, but in the bibliography of that early America, there was stored a mine of material, depicting health and disease with the medical personnel of the times. The author wisely, in large measure, sought out the printed records of contemporaneous writers and, later authoritative historiographers who have written in their works of disease and of medical men of that era as they recorded colonial, state, legislative, and social life of this country in its first century.

One notes: Captain John Smith's works, 1608-1631; John Lederer's Discoveries, 1669-1670; George L. Burr, Narratives of the Witchcraft Cases, 1648-1706; Thomas Harriott, A Briefe and True Report of the New Land of Virginia, 1588; William Strachey, The History of the First Discovery and Settlement of Virginia Britannia (written 1616-1618). Printed from the original manuscript in the British Museum, London, 1849; and other writers of the period.

One notes, also that the author has searched for original material for his work in the records of the county government, preserved in the State Library, found in collections and publications of the Virginia Historical Society, in Colonial records of Virginia, from papers in the British Public Record office, in County Records of the Seventeenth century (records of the counties of Henrico, Northampton, Northumberland, Rappahannock, Richmond, Surry, and York) in Parish records, Vestry

books and Registers, in McIlwaine's *Executive Journals of the Colonial Virginia*, *Journal of the House of Burgesses*, in the *William and Mary College Quarterly*, covering the colonization period of Virginia and other line sources, as *William Waller Hening, The Statutes at Large*. Also, one is impressed by such outstanding historical contributions to Virginia history in the bibliography of Alexander Brown, "The First Republic in America"; *The Genesis of the United States*; R. A. Brook, *Collections of the Virginia Historical Society*; Phillip Alexander Bruce, *Economic History of Virginia in the Seventeenth Century*; *Institutional History of Virginia in the Seventeenth Century*; *Social Life of Virginia in the Seventeenth Century*; Lyon G. Tyler, *Encyclopedia of Virginia Biography*; Horace E. Hayden, *Virginia Genealogies*; Bishop William Meade, *Old Churches, Ministers and Families in Virginia*; Mary Newton Stanard, *Colonial Virginia—Its People and Customs*; J. M. Toner, *Contributions to the Annals of Medical Progress and Medical Education in the United States*, and other historical works of this nature.

MEDICINE UNDER THE LONDON COMPANY

The Englishmen under Sir Walter Raleigh, in 1583-1588, attempted, unsuccessfully permanent settlements. But the one result that was permanent was the naming of the new country, Virginia, in honor of Queen Elizabeth. In 1606, under the London Company, chartered by the Crown, there was sent out from England an expedition which landed finally and accomplished a permanent settlement, May 13, 1607, at a place on James River which was given the name of Jamestown. Here for eighteen years until 1624, under the London Company, there took place a conflict of mighty forces of nature, a conflict between the will of a mighty people—the Englishmen—and forces of Disease. Our author recounts from the records of his bibliography instances that show the large place that disease, brought about by deficient food and dietary, by inadequate sanitary conditions, by infections, played in this terrific conflict in the birth of this nation. Medical men, under the light of the knowledge of the day and under the environment of an expeditionary settlement in a foreign and wild country, played no small part in this great event. Before the Pilgrims landed at Plymouth, 1623, on the shores of the James

River, the medical men had begun a heroic part here in Virginia in warding off the devastating and ravaging effects of disease among the early settlers. In the pages of the opening chapters, one may picture the hardships and difficulties, while he can but admire the story and the effort of the adventurous members of the medical band as they did their important part.

After describing the early days under the London Company, our author closes with this paragraph:

"The regime of the London Company ended in 1624. It had shown a rather high conception of the type of physician that should be sent to the colony. Russell, Bohun, Pott, and Pawlet were all men of education. Throughout the remaining years of the century, Virginia had many physicians and surgeons, most of them home-grown, self-educated, and products of a local apprenticeship."

THE REMAINDER OF THE BOOK

In the body of the book, covering interesting medical questions, the author treats such medical questions as the epidemic diseases of the first century in the Virginia Colony; medical education as conducted here in the early days: describes the remedies and means of therapy used by the colonial doctor in his treatment of disease; the manner and nature of medical practice of those pioneer decades of the Old Dominion; methods used through the scores of years of the Seventeenth Century in the colony for housing the sick; the place and services of the women of the colony in the practice of medicine and the care of the sick; the private life of the physicians in colonial Virginia; the public relations and responsibilities of the physicians in the government and in the official life of Virginia; the vocational interests of the medical man and his avocational diversification in employments of his time; the medical fees, and the method of paying for professional services; and, in the 12th Chapter the medical legislation enacted through these formative years of American colonization. To every American practitioner of today, if he has a patriotic and true interest in medical progress in America, these chapters must abound in keenest interest. Every page is filled with a fascinating story of the medical past of the profession that must thrill medical readers of today.

EPIDEMIC DISEASE

The mortality is shown here as devastating, particularly in the first twenty-five years of the colony. The settler arrived, after a voyage aboard an unsanitary small sailing ship, covering in passage months on the sea, poorly fed, the victim of deficiency diseases and soon to be assailed by active infections of polluted drinking water and spoiled food, to say nothing of wound infections and contagious pulmonary infections. In the chapter on early days of the colony, one may find instances of health hazards that make one wonder how it was possible for a white man to survive under such conditions through any number of years. As decade succeeded decade, through this first century of Virginia, sickness and epidemic maladies made terrible inroads on the population. The author discusses briefly beriberi, scurvy, malaria, respiratory infections (such as influenza, pneumonia), and the summer complaints of "fluxes and fever," dysentery, colitis, yellow fever, and tuberculosis.

MEDICAL EDUCATION

This chapter is especially interesting. It tells of the early doctors, sent over by the Sheffield Company from London. As the author brings out medical education of the colonial medical man through the century, many interesting facts are disclosed. The educated London immigrant doctor, the indented apprenticed medical student of the later years, the libraries of medical men, and like interesting notations are brought out. As the century passed it was true that few of the colonial doctors had the university degree of doctor of medicine, many of them having been an apprenticed student under an English physician or a Virginian and in this way was commissioned. In the latter period of the Jamestown administration, free school education improved the material and medical education began to show a higher type of student in the late decades of the Seventeenth Century.

A LIST OF SEVENTEENTH CENTURY VIRGINIA DOCTORS WITH BIOGRAPHIC SKETCHES

Under this, the author has culled from various sources a remarkable collection of colonial names with some biographic description. Most

of the names of the colonial physicians appear to be English. There are 230, more or less.

For instance: "Wotton (Wootton), Thomas: Chirurgcon. Came to Virginia in 1607 and was the first Surgeon General of the Colony"

"Parke, (Park) Colonel Daniel: Born in England and came to Virginia very young He was an active practicing physician His will, filed in London, bequeathes 'all my plantations and negroes in Virginia' to his son Daniel Parke"

"Irby, Dr. William: Lived in Westover Parish, Charles City Co. . . . Collected medical fees in Henrico Co., Court 1679-1693"

"Makemie, Francis: 'Father of the Presbyterian Church in America' Came to Accomac Co., Va., soon after 1864." He was a doctor of physic.

"Robins, Dr. Thomas: Chirurgcon, of Robins' Neck, Gloucester Co. Mentioned as practicing in York Co., 1666-74"

This book should be read and owned by every Virginia doctor. It abounds in interest. No one should miss the opportunity of securing a copy from the limited edition that will be published.

ALEXANDER G. BROWN, JR.

News Notes

Norfolk Meeting of Medical Society of Virginia.

Interest is beginning to center around the forthcoming meeting of the Medical Society of Virginia to be held in Norfolk, under the presidency of Dr. Charles R. Grandy, of that city. Titles with abstracts have been received for a number of papers to be presented in the general sessions. In this connection, we wish again to call attention of members to the following resolutions governing the program, and to request members who desire to present papers to send titles with abstracts to the Society's offices by September 1st. In accordance with our By-Laws, no paper presented shall be allowed more than fifteen minutes.

RESOLUTIONS GOVERNING PROGRAM

1. That at the next meeting the report of the House of Delegates be made at noon on Thursday, October 23, after which the meeting shall adjourn finally to an oyster roast:

2. That the clinics to be given on Tuesday afternoon, October 21, be divided into three (3) groups, conducted simultaneously, at different locations, and that notice of the place and time of the clinics be published in the "Monthly" in advance, for the information of members;

3. That notices be sent to members, inviting them to submit titles of "voluntary" papers to be placed on the program, but that no paper be accepted unless the title with an abstract of the paper of 150 to 200 words, be sent to the Secretary by September 1;

4. That if the number of titles, with abstracts submitted, be in excess of the number necessary to make up a program, such additional titles of papers appear in the program to be read by title.

There will be a symposium on Syphilis, for which the chief speakers will be Dr. William B. Newcomb, Norfolk; Dr. C. C. Coleman, Richmond; Dr. C. B. Ransone, Roanoke; and Dr. D. C. Smith, University. Discussion will be opened by Dr. Carrington Williams, Richmond; and Dr. Charles E. Conrad, Harrisonburg.

Clinical meetings will be held at St. Vincent's Hospital, Norfolk Protestant Hospital, and the King's Daughters' Clinic, and it is expected that these will be largely attended.

The golf tournament will be held on Tuesday, October 21st, the exact time and schedule of which will be announced later.

The Monticello Hotel will be headquarters and all meetings except the clinical ones will be held there. There are several other good hotels in Norfolk, also, so that there will be ample accommodations, though it is best to make reservations in advance so as to secure one's preference.

Information about the meeting, according to its nature, may be had from the local chairman, Dr. William L. Harris, Medical Arts Building, Norfolk, or from the Society's offices, 104½ West Grace Street, Richmond.

American Medical Association.

The eighty-first annual session of the American Medical Association was held in Detroit, Mich., June 23rd-27th, under the presidency of Dr. Malcolm L. Harris, of Chicago. Dr. William Gerry Morgan, Washington, D. C., succeeded to the presidency at this session.

Virginia was represented in the House of Delegates by Drs. Southgate Leigh, J. W. Preston, and E. C. S. Taliaferro. The scientific and technical exhibits were of a high class. Dr. Vincent W. Archer and Charles H. Peterson, of Virginia, were awarded a bronze medal in Class II of the Scientific Exhibits for excellence of presentation of original work on intestinal ascariasis.

Philadelphia was selected as the 1931 place of meeting and the following officers were elected: President-elect, Dr. Edward Starr Judd, Rochester, Minn.; vice-president, Dr. Louis J. Hirschman, Detroit; secretary, Dr. Olin West, Chicago; and treasurer, Dr. Austin A. Hayden, Chicago, both of the latter having been re-elected.

There was a registered attendance of 5,104, of whom the following forty-three were from Virginia:

Dr. Vincent W. Archer, University.
 Dr. Howard Armstrong, Harrisonburg.
 Dr. Dudley C. Ashton, Richmond.
 Dr. Edward L. Alexander, Newport News.
 Dr. Randolph Anderson, Richmond.
 Dr. E. Barksdale, Lynchburg.
 Dr. Emmett P. Bray, Hanover.
 Dr. I. Keith Briggs, South Boston.
 Dr. C. C. Coleman, Richmond.
 Dr. T. Dewey Davis, Richmond.
 Dr. J. H. Deyerle, Harrisonburg.
 Dr. E. G. Gill, Roanoke.
 Dr. Charles R. Grandy, Norfolk.
 Dr. Edgar C. Harper, Richmond.
 Dr. Emory Hill, Richmond.
 Dr. Fred M. Hodges, Richmond.
 Dr. J. Shelton Horsley, Richmond.
 Dr. M. B. Jarman, Hot Springs.
 Dr. Southgate Leigh, Norfolk.
 Dr. Eugene L. Lowenberg, Norfolk.
 Dr. E. R. Martin, Newport News.
 Dr. Walter B. Martin, Norfolk.
 Dr. H. H. McGuire, Winchester.
 Dr. Thos. W. Murrell, Richmond.
 Dr. Robert L. Payne, Norfolk.
 Dr. William B. Porter, Richmond.
 Dr. John W. Preston, Roanoke.
 Dr. N. M. Robinson, Vinton.
 Dr. Mary E. Roche, Norfolk.
 Dr. L. T. Royster, University.
 Dr. B. C. Shuler, Shenandoah.
 Dr. Dudley C. Smith, University.
 Dr. Hunter B. Spencer, Lynchburg.
 Dr. James B. Stone, Richmond.
 Dr. L. E. Stubbs, Newport News.
 Dr. E. C. S. Taliaferro, Norfolk.
 Dr. D. M. Thomasson, Lynchburg.
 Dr. Hugh H. Trout, Roanoke.
 Dr. Cuthbert Tunstall, Charlottesville.
 Dr. Warren T. Vaughan, Richmond.
 Dr. E. P. White, Odd.
 Dr. L. L. Williams, Jr., Richmond.
 Dr. Fletcher D. Woodward, Charlottesville.

Married.

Dr. Robert Battaille Hiden, Stockbridge, Mass., of the class of '23, University of Vir-

ginia, and Miss Clotilda Rodes Waddell, in Annapolis, Md., June 23rd.

Dr. A. Lacy Tynes, Staunton, Va., of the class of '30, University of Virginia, and Miss Bessie Meade Riddle, Norfolk, Va., June 21st. For the coming year, Dr. Tynes will serve as an interne in the army hospital at Fort Sam Houston, Texas.

Dr. Addison McGuire Duval, of the class of '29, Medical College of Virginia, and Miss May Elizabeth Weymouth, in Newport News, Va., June 25th. Dr. Duval recently completed an internship at St. Elizabeth's Hospital, Washington, D. C., and will now be located at Cherrydale, Va.

Dr. Felix Burwell Welton, of the class of '27, Medical College of Virginia, and Miss Lelia Frances Gardner, Decatur, Ga., July 17th. Dr. Welton is at present on the house staff of the New York Polyclinic Hospital. In the Fall, Dr. and Mrs. Welton will go to China, where Dr. Welton will be connected with the Yencheng General Hospital.

Dr. James Alvis Soyars, Saltville, Va., and Miss Billie Barnes, Abingdon, Va., the latter part of June. Dr. Soyars was graduated from Medical College of Virginia in 1928 and served an internship at George Ben Johnston Memorial Hospital, Abingdon.

Medical College of Virginia News.

The following are new appointees of the faculty of the Medical College of Virginia for next session or who have been absent on leave and are taking up work again with the institution: Dr. Isaac A. Bigger, professor of surgery; Dr. Sigmund F. Bradel, associate in crown and bridge prosthesis and dental metalurgy; Dr. H. G. Grant, associate in preventive medicine; Dr. G. F. McGinnis, associate in preventive medicine; Dr. A. L. McLean, associate in preventive medicine; Dr. Rolland J. Main, associate in pharmacology and physiology; Dr. B. W. Meador, associate in dermatology and syphilology; Jesse A. Reese, instructor in pharmacy; Dr. J. Asa Shield, associate in nervous and mental diseases; Dr. W. R. Southward, assistant in surgery; Dr. Harry Walker, instructor in medicine; Dr. J. C. White, assistant in medicine; Dr. B. W. Wilkinson, assistant in surgery; Dr. C. W. Skinner, associate professor of anatomy.

Dr. H. Hudnall Ware, Jr., on July 1st, as associate in obstetrics, became chief of service,

department of obstetrics. His responsibilities will cover both the inpatients, outpatients, and include the home obstetrical deliveries. This new arrangement for coordinating the obstetrical services of the institution will be under the general direction of the head of the department. Under this plan Dr. Ware will be whole time within the institution with certain time allowed for work with private patients.

In addition to Dr. Ware three other teachers of clinical subjects of the school of medicine are now on this so-called whole time basis; they give full time within the institution but not full time to the institution in that they are given certain opportunities daily to see private patients. Those engaged on this plan at present are Dr. William B. Porter, professor of medicine; Dr. Isaac A. Bigger, professor of surgery, and Dr. Lee E. Sutton, Jr., assistant professor of pediatrics and chief of the service.

Field work has begun in Southwest Virginia in the study of lung involvement in human ascariasis made possible by a research grant from the Committee on Scientific Research of the American Medical Association. The disease will be studied both from the clinical and laboratory sides.

The first Stuart McGuire Lecture, delivered by Dr. William J. Mayo last spring, has been published in bulletin form and is available to the profession upon request. Dr. Mayo's subject was "In Medicine Understanding Must Come Before Belief."

Ten Million Trees for George Washington.

The Commission appointed by President Coolidge to arrange proper observation of the Two Hundredth Birthday of George Washington (in 1932) has asked the American Tree Association to take charge of the Memorial Tree Planting.

The aim of the Commission and of the Association is to have over ten million memorial trees planted between now and 1932, and dedicated to the Father of our Country on February 22, 1932. In order to do this, individual plantings, group plantings, street plantings, and forest plantings are desired. Patriotic citizens everywhere are urged to do their part in this work, and to plant a tree or to participate in the planting of a number of trees.

The American Tree Association, 1214 Sixteenth Street, Northwest, Washington, D. C., will be pleased to send tree planting suggestions *gratis* to any one who asks for them.

What Can Be Done for Porto Rican Children?

At the request of President Hoover, Dr. J. S. Crumrine, general executive of the American Child Health Association, has gone with two assistants to Porto Rico to see what can be done for the children of that island. This action was taken in response to the appeal for aid by Theodore Roosevelt, governor of Porto Rico, who called attention to the distressing conditions which have continued ever since the recent hurricane caused widespread destruction of property and crops.

Meeting to Discuss a Differential Stain for Tissue Diagnosis in the Operating Room.

The following is a brief report of a meeting held in the Surgical Pathological Laboratory at Johns Hopkins Hospital in Baltimore, just prior to the A. M. A. Convention at Detroit. This meeting was arranged by Dr. J. C. Bloodgood and attended by pathologists, surgeons, chemists and technicians from all parts of the country.

The chief subject of discussion and demonstration was a differential stain for tissue diagnosis in the operating room.

This is a question of vital importance to every surgeon in the interest of his patient. Frozen section diagnosis of fresh tissue has been used for years with more or less satisfactory results, but the stains used did not permit permanent mounts or preservation of sections. Dr. Bloodgood and his associates demonstrated a new alcohol soluble stain which showed good differentiation of cells and stroma was rapid and could be permanently mounted for further study and reference. The technique is very simple, the time consumed not more than the ordinary frozen or fresh sections and has the estimable advantage of being permanent.

To any one interested, the Experimental Laboratory of Johns Hopkins Hospital, Baltimore, Md., will furnish a small sample of stain upon request.

MARY E. ROCHE, M. D.,
Norfolk, Va.

The American Hospital Association

Requests hospitals and all others who participated in the celebration of National Hos-

pital Day, this year, to send their material for the contest, for award to be given for the best demonstration of display. The material will be displayed in the booth at the annual convention of this association in New Orleans, October 21st-25th.

For further information, write Dr. J. R. Morrow, chairman, Bergen County Hospital, Ridgewood, N. J.

A Post-Graduate Week of Physical Therapy

Is to be conducted in conjunction with the ninth annual scientific session of the American Congress of Physical Therapy, September 8th to 12th, inclusive, 1930, at the New Hotel Jefferson, St. Louis, Mo.

An intensive post-graduate week of physical therapy is promised. While every phase of physical therapy will be covered, the systematic arrangement of the program makes it possible for the physician to attend only those sessions in which he is vitally interested. Several of the afternoons and evenings will be given over to addresses by prominent guests. There will be symposia on "Education and Teaching of Physical Therapeutics" and on "The Relation of the Physician and the Technician in Office and Hospital Practice."

The preliminary program containing full information and details will be sent upon request to the Executive Secretary, American Congress of Physical Therapy, Suite 716, 30 N. Michigan Avenue, Chicago, Ill.

Dr. Emory Hill,

Richmond, Va., was re-elected secretary of the American Ophthalmological Society at its meeting at Hot Springs, Va., early in June. At this time, Dr. Arnold Knapp, New York, was installed as president, and Dr. Edward C. Ellett, Memphis, Tenn., was made president-elect.

Dr. Hubert Holsinger,

Of the class of '28, University of Virginia, at which place he has been located since graduation, left in June for New Haven Hospital, New Haven, Conn., where he has entered upon an assistant residency in surgery.

Roche Builds Again.

In these days of business retrogression, while the "repression" is supposedly on, it is pleasing to hear of at least one company whose increasing business warrants a further extension of its present manufacturing facilities. On June 11th, a little less than a week before the first anniversary of Hoffman-La Roche,

Inc., in their new home at Nutley, New Jersey, ground was broken for two new buildings.

The pictures in the Roche ad in this issue attempt to reveal only a few of the interesting sights to be seen by any physician who visits these ultra-modern scientific laboratories in Nutley. Visitors, always welcome, marvel at the immaculate cleanliness, abundance of light, intricate apparatus and meticulous care exercised in each manufacturing process. If you did not receive a copy of "The Doctor Visits Roche" write to the Roche Scientific Department for this interesting booklet.

Texas Plans for Parent Education.

The establishment of a foundation for child welfare and parent education in the University of Texas is the purpose of a special committee, which is planning to raise the needed funds—\$100,000—through popular subscription. The method proposed is to get donations of \$50 each to be given in the name of individual children, whose names then would be entered in a "Founders' Book" to be preserved in the archives of the university.

Dr. R. W. Browne,

Who has been a member of the Medical Society of Virginia for a number of years, has just been transferred from the U. S. Veterans' Hospital, Ft. Bayard, N. Mex., to the U. S. Veterans' Hospital, Walla Walla, Wash.

Dr. George H. Long,

Luray, Va., was re-elected chairman of the Page County Republicans in a mass meeting held at Luray, early in July.

Dr. George B. Fadeley,

Falls Church, Va., was elected president of the Falls Church, Va., bank, at the annual meeting of the stockholders and directors early in July.

Dr. William A. Reese,

Petersburg, Va., has been appointed as city physician of Petersburg, to look after the sick poor of that city. He entered upon his duties on August the 1st.

The Duke Hospital,

Opened in Durham, N. C., on July 21st, is considered by experts to be one of the best equipped hospitals in the world. The staff is headed by Dr. Wilburt C. Davison, formerly assistant dean of Johns Hopkins, and includes approximately seventy prominent physicians and surgeons representing every specialized field of medical science.

The cost of the hospital was \$4,000,000, the

greater part of this coming from the endowment established by the late James B. Duke. The building has four main floors and a tower mounting to eight stories and, including the courts, covers three acres. The hospital has 400 beds and 50 bassinets. When in full operation it will have 200 nurses. The building is in three main divisions—the medical school, the hospital and the intermediate diagnostic laboratories.

A Half-Century of Service.

During the half-century of work of the Brooklyn Society for the Prevention of Cruelty to Children 250,000 complaints of abuse and cruel treatment involving 850,000 children were received and investigated at a cost of nearly \$2,500,000.

The National Board of Medical Examiners,

At its recent annual meeting, elected the following officers: Dr. Waller S. Leathers, President; Everett S. Elwood, Executive Secretary; Dr. J. S. Rodman, Medical Secretary. In addition to the officers, eight new members were elected for terms of six years each.

Reports of the officers of the Board showed an increase of approximately ten per cent in the number of candidates taking the examinations during the past year as compared with the year previous.

The number of state boards now recognizing the National Board's certificate totals forty besides the territories of Hawaii and Porto Rico and the Canal Zone. Partial recognition is also granted by England, Scotland, Ireland, and Spain.

Examinations in Part I and II were scheduled and given in forty-one centers throughout the country; there being a total of 707 candidates registered for Part I and 337 for Part II. Examinations in Part III, the clinical and practical examination, were held in sixteen centers in June and July with approximately 280 registered candidates.

San Francisco Sunshine School.

Seventy-two crippled children are being educated for self-help and self-support in the Sunshine School of San Francisco. They come from all parts of the city—in taxis provided by the city if they have no other means of conveyance. The subjects studied are much the same as in the other city schools, except that manual training and handicrafts are emphasized. Nourishing food is provided, rest periods and suitable exercises form part of the

program, and stress is laid upon personal hygiene.

Dr. Thurman D. Kitchin,

For the past thirteen years dean of the Wake Forest College School of Medicine, at Wake Forest, N. C., was recently elected president of the Wake Forest College.

Dr. George W. Parson,

Formerly of Raven, Va., but who has spent some time in Kansas City, Mo., since doing special work at Mayo Clinic, announces that on August 1st, he located at 525 Olive Street, Texarkana, Texas.

Dr. J. Lewis Blanton,

Formerly of Fieldale, Va., after studying in the North, has located at 192 West State Street, Trenton, N. J., where he is limiting his work to pediatrics.

Dr. Robley R. Goad,

Of the class of '25, Medical College of Virginia, after completing special work in ophthalmology at the University Hospital, Iowa City, and at the Episcopal Hospital, Washington, D. C., has located in Laurel Building, Muscatine, Iowa, for the practice of his specialty.

Cardiac Round Table.

The Physicians Hospital of Plattsburgh, Plattsburgh, N. Y., will hold its second annual Cardiac Round Table on Friday and Saturday, August 22nd and 23rd, in connection with the summer course in cardio-nephritis. Visitors are advised that hotel accommodations should be secured well in advance. Suitable reservations will be made by a representative of the Instruction Committee of the Hospital, upon request.

Dr. A. R. Shands, Jr.,

Formerly of Washington, D. C., an alumnus of the University of Virginia, Department of Medicine, has just located at Durham, N. C., where he is in charge of the orthopedic work in the Duke University School of Medicine and Hospital.

"Cub Scouts."

The "Cub Scout," a boy of 9, 10, or 11 years, too young to become a regular Boy Scout, has arrived in this country. The program for these junior scouts will differ essentially from that of their older brother scouts by being carried out mostly in the home back yard and neighborhood, and when they go on hikes the "cubs" will always return to the home "hangar" at night. The leaders will be

mothers, younger boy leaders, and older boy scouts, with a "cubmaster" responsible to the sponsoring council. A special committee, financed by a grant from the Laura Spelman Rockefeller Memorial Fund has prepared the program for this extension of the scout organization.

The U. S. Civil Service Commission,

Washington, D. C., announces open competitive examination for Senior Medical Officer (Psychiatry), applications for which must be on file with the Commission not later than August 27, 1930.

Dr. Lewis A. Law,

Alberta, Va., spent the month of July at the Harvard Medical School, taking post-graduate work in cardio-vascular diseases.

Dr. Charles L. Savage,

Who recently completed his internship at the University of Virginia Hospital, has become one of the assistant physicians to the Blue Ridge Sanatorium, Sanatorium, Va.

Dr. Hunter H. McGuire,

Winchester, Va., was elected vice-chairman of the Section on Ophthalmology of the American Medical Association, at its recent meeting in Detroit.

Compulsory Education of Blind and Deaf Children in Virginia.

The Virginia Legislature at its 1930 session passed measures making compulsory the education of all deaf and blind children of the State and authorizing local school authorities of cities and counties, in cooperation with the Virginia Commission for the Blind, to establish and maintain special classes for the education of blind and partly blind children in the public schools.

Dr. Herbert W. Rogers,

Norfolk, Va., was recently elected a member of the Norfolk City School Board for the term of one year.

Dr. and Mrs. A. T. Finch,

Chase City, accompanied by Miss Margaret and William Finch and Mrs. Thomas Fry, sailed from New York on the steamship "*Lapland*," July 11th, for a vacation in Europe. In Paris, Dr. and Mrs. Finch met their daughter, Miss Mary Finch, who has been on duty at the Methodist Girls' Training School in Hiroshima, Japan, and is now coming home on a furlough. The party will tour France, England, Switzerland, Italy, and visit the

Passion Play before returning to the States the last of August.

Dr. Charles Y. Griffith,

Of the class of '29, Medical College of Virginia, upon completing his service as house physician and surgeon at the Hazleton State Hospital, Hazleton, Pa., June 30th, located at Mount Holly, Va., for general practice.

Dr. Harry R. Seelinger,

Norfolk, Va., has been named junior vice-commander of the Virginia Department of Veterans of Foreign Wars.

Dr. J. B. Harvie Waring,

Cincinnati, Ohio, visited friends and relatives in Richmond, Va., around the fourth of July.

Street Shower Baths for Philadelphia Children.

About 300 showers attached to fire hydrants in the congested sections of Philadelphia are expected to bring joy this summer to many thousands of Philadelphia children. Each shower will be in the care of a fire station, a settlement house, or some responsible person, and will be operated on a definite schedule.

Dr. Buckner Magill Randolph,

Professor emeritus of clinical medicine in George Washington University, announces his removal from Washington, D. C., to 205 East High Street, Charlottesville, Va. He will limit his practice to internal medicine.

Dr. John M. Bishop,

Who practiced for a time at Appalachia, Va., has just returned after a year of post-graduate study in the North, and has opened an office at 511 Medical Arts Building, Roanoke, Va., where he will limit his practice to pediatrics.

Dr. O. Kyle Burnette,

Of the class of '29, Medical College of Virginia, upon completing his internship, July 1st, with the Medical College of Virginia, Hospital Division, at Richmond, located in Culpeper, Va., where he has become associated with Dr. D. W. Kelly in general practice.

Dr. S. E. Hughes, Jr.,

Formerly of Danville, Va., who has been practicing in California for some time is now in Monrovia, Calif., where he will assist Dr. E. W. Hayes for several months in his practice of diseases of the chest.

Dr. Harry Bear,

Richmond, Va., former president of the Virginia State Dental Association and dean of the

School of Dentistry of the Medical College of Virginia, was elected president of the American Society of Oral Surgeons and Exodontists at its annual meeting just held in Denver, Colo.

Lantern Slide Demonstrations on Diseases and Tumors of Bone.

Dr. Joseph C. Bloodgood, of the Garvan Cancer Research Laboratory of the Surgical Pathological Laboratory, Johns Hopkins University, announces that on September 15th, 16th, and 17th, there will be a meeting in the ballroom of Belvedere Hotel, Baltimore, Md., during which time there will be lantern-slide demonstrations, with four lanterns and screens, on the Diagnosis and Treatment of Diseases and Tumors of Bone. Any member of the medical profession interested in this subject is invited, but, on account of the size of the ballroom, the number must be limited to 800.

For details in regard to this demonstration, address Miss Maude Walker, secretary to Dr. Bloodgood, Surgical Pathological Laboratory, Johns Hopkins Hospital, Baltimore, Md.

Detroit's Nursery Schools for Children of Working Mothers.

Detroit's Public Welfare Department is tackling the problem of caring for children below school age from families applying for aid in which the mother has to work away from home. It is now organizing a second nursery school for that purpose after a year's experience with its first school. The aim of the schools is to give the children the benefit of modern methods of child care, to educate the parents, and to provide a laboratory of child care for high school students.

Technician Desires Position.

Technician with five years' actual experience in X-ray and laboratory work desires position in clinic or hospital. Graduate in laboratory course at Post-Graduate Hospital and Medical School, Chicago. Address "A. B." care this journal. (*Adv.*)

Wanted.

Medical resident, active medical service, 100 bed hospital, at once, to serve through June 30, 1931. Full maintenance and \$75.00 per month. Address Chesapeake and Ohio Hospital, Clifton Forge, Va. (*Adv.*)

Wanted.

Two internes, Petersburg Hospital, 75-bed capacity, rotating service, ending June 30, 1931. Full maintenance, \$75.00 per month

each. Address, Superintendent, Petersburg Hospital, Petersburg, Va. (*Adv.*)

Wanted

Association with established surgeon or group. Graduate of Medical College of Virginia, with three years' hospital training, majoring in surgery. Single. Protestant. Age 29. Address No. 242, care this journal. (*Adv.*)

Obituary Record

Dr. Schuyler Barclay Moon,

Well-known physician of Richmond, Va., died suddenly July 12th, after having been in ill health for some months. Dr. Moon was a native of Albemarle County and was sixty-three years of age. He graduated from the Medical College of Virginia in 1905, and was a pioneer in the treatment of rabies, having succeeded Dr. Hoen as director of the Pasteur Institute of Virginia. For a number of years, he had been instructor in pathology at the Medical College of Virginia and was a member of the staff of Grace Hospital. Dr. Moon had been a member of the Medical Society of Virginia for the past twenty-five years. His wife and one daughter survive him.

Dr. Jesse Garvin Carter,

Richmond, Va., died June 27th at a hospital in Lyman, Miss., of acute angina pectoris, after an illness of several months. He was forty-four years of age and graduated from the Medical College of Virginia in 1918. Dr. Carter had been a member of the Medical Society of Virginia for the past ten years. His wife survives him.

The following resolutions were adopted on the death of Dr. Carter:

WHEREAS, the Manchester Medical Society having learned with deep sorrow of the death of its member, Dr. J. G. Carter, it is hereby

RESOLVED: That this Society feels that it has lost one of its most valued members, whose constant presence at our meetings, whose willing participation in our discussions and deliberations, and whose genial personality added greatly to the pleasure and the value of our meetings. We feel, furthermore, that in his death a great loss has been sustained by the community at large.

RESOLVED, Secondly: This Society tenders to the bereaved family our sincere sympathy in this hour of distress; that a copy of these resolutions be transmitted to them; also that a copy be sent the VIRGINIA MEDICAL MONTHLY for publication.

A. C. MONROE,
J. G. LOVING.

Dr. John Herndon French,

New York City, a member of the Medical Society of Virginia since 1886, died February

13, 1930, in his seventy-first year. Dr. French was born in Fredericksburg, Va., and was an alumnus of Virginia Military Institute, class of 1879, and also of the New York University, 1882, and of Bellevue Hospital. He went to New York at an early age but always maintained an affection for his native state which he visited each year. His body now rests in the old Confederate Cemetery in Fredericksburg. He is survived by his widow, two sons and two daughters.

Dr. Charles Solomon Lawrence,

Founder of the Lawrence Hospital, Winston-Salem, N. C., died June 21st, at the age of fifty-two years. He was graduated from the George Washington University Medical School in 1908 and practiced at Mt. Airy, N. C., for several years before locating in Winston-Salem. He was a veteran of the Spanish-American and World Wars. He was a prominent surgeon and an ex-president of the North Carolina State Hospital Association. His wife survives him.

Dr. Lynn J. Gallup,

Norfolk, Va., died in Marion, Va., May 4th, of cerebral hemorrhage. Dr. Gallup was fifty-two years of age and had graduated in medicine from the College of Physicians and Surgeons of Baltimore, Md., in 1898.

Dr. John Albert Patterson,

Concord, N. C., who graduated from the former University College of Medicine, Richmond, Va., in 1911, died May 17th of a kidney infection. He was forty-seven years of age. Dr. Patterson was a member of the staff of the Concord Hospital and a member of the Medical Society of the State of North Carolina.

Dr. Averley Claude Holmes Russell,

Medical inspector, commander, U. S. Navy, retired, died in Nice, France, June 3rd, at the age of seventy-six years. He was graduated in medicine from the University of Virginia in 1878 and entered the navy the following year.

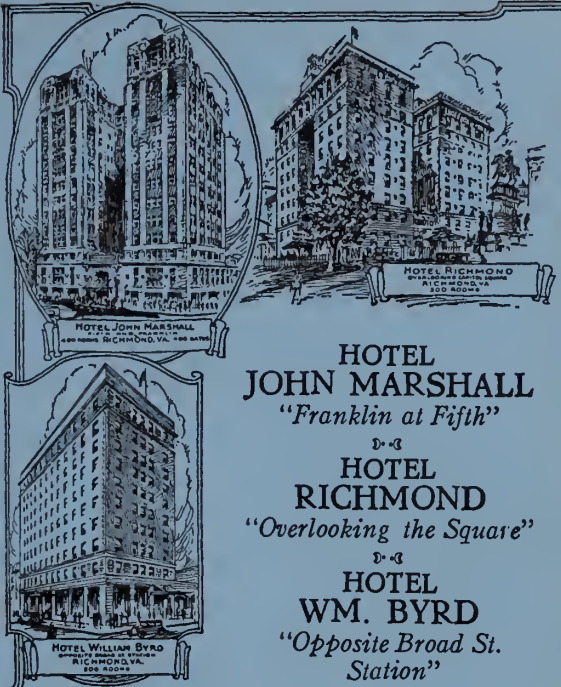
Dr. Walter M. Brickner,

Editor of the *American Journal of Surgery* since its establishment in 1905, died suddenly July 22nd, at his summer home on Long Island. Death was due to angina pectoris. Dr. Brickner was fifty-five years of age and a graduate of the New York City College and of the College of Physicians and Surgeons of Columbia University. His wife survives him.

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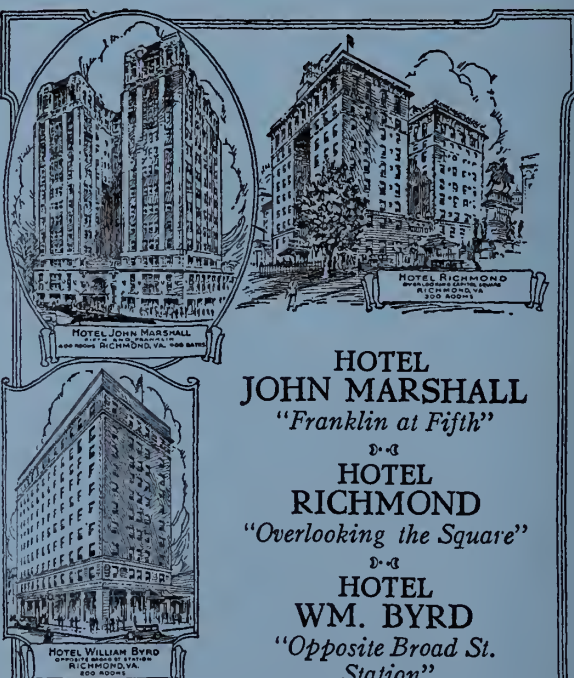
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TARDY SYMPTOMS OF CONGENITAL LESIONS.*

By O. H. PERRY PEPPER, M. D., Philadelphia, Penn.

INTRODUCTION.—In the diagnostic study of a patient one is naturally influenced by certain factors inherent to the individual. The age and the sex of the patient cannot help but direct our thoughts in some directions and away from others. A most obvious example with regard to sex concerns the wide differences in our diagnostic reaction to a complaint of lower abdominal pain in the male and in the female. Similarly, the suspicion aroused in us by many symptoms differs widely according to the age group in which our patient belongs. This attitude of mind is reflected in such phrases as the "cancer age" or the "degenerative period of life."

In a patient of more than fifty years of age, we are quick to think of a degenerative process; in youth the acute infections come first to mind. With the same reasoning we tend to associate the thought of a congenital lesion with infancy or youth. This is quite proper since many congenital lesions are evident at or soon after birth and continue to produce symptoms until the lesion is cured or the patient succumbs. These need no discussion here. All congenital lesions are intensely interesting from many points of view, but there is one aspect of congenital lesions which is especially important from the point of view of diagnosis. This is the well-known but often forgotten fact that many congenital faults fail to make themselves evident in infancy and fail to produce symptoms for varying periods, in some instances never, in others not until the individual has reached adult years. As examples of the many congenital anomalies which are apt never to produce symptoms one may cite accessory spleens, *situs inversus* and many of the anomalies of arteries. Of those whose first symptoms may appear after years of silence, many, I am sure,

come at once to your minds. A few of these will be discussed more fully.

Before doing so, however, let us stop to speculate concerning the factors which, as life advances and the organism ages, become operative to transmute a silent congenital abnormality into one causing disease and even threatening life.

We must leave out of our discussion, because of our ignorance, all attempt to deal with such intangibles as an hereditary weakness, for example, shoddiness of arteries as Osler put it. Such inborn tendencies or weaknesses, it is true, often become evident only after the wear and tear of many years of life but the topic is too complex for us today. We cannot recognize the primary fault nor evaluate the factors bringing about the later failure.

The factors which act in the cases of more definite congenital lesions can more often be recognized. In one the abnormal part proves to be a *locus minoris resistentiae* and becomes a starting point for an infectious or neoplastic process. In other instances, the abnormality induces a narrowing of the margin of functional safety which results in premature failure of this function under the gradual impairment by the passing years. In still other instances, the postural changes and the weakening muscles of middle life turn a previous silent anomaly into a symptom-producing lesion.

Let us consider a few congenital lesions in detail and let us try to recognize which of these various factors act in each.

1. CHRONIC DUODENAL ILEUS.—In 15 to 20 per cent of newborn infants there will be found, if one searches carefully in the neighborhood of the duodenum, one or more thickenings of the peritoneum. These are due to abnormal peritoneal fusion during fetal life; they may occur in any of several positions, often in more than one. Various terms and personal names have been applied to them ac-

*Read before the Richmond Academy of Medicine, April 22, 1930.

according to the position of the band, or its chief describer. Thus, for example, the bands are described as being supramesocolic and submesocolic, as being hepatoduodenal and duodeno-jejunal, and the names of Harris, Kirk, Jackson, Mayo, Kellogg, for examples, are attached to various forms. Perhaps for our purpose today it will suffice to quote the apt phrase first used by Morris, "There are cobwebs in the attic of the abdomen."

It is interesting how few of these congenital bands ever cause symptoms, but when they do the symptom picture may be very remarkable. Two groups of phenomena arise; one is chiefly mechanical, the other toxic. Chronic obstruction in the lower portion of the duodenum soon leads to dilatation of the duodenum, then to regurgitation into the stomach and in time to gastric retention and dilatation with vomiting. Among the toxic symptoms recognized are anorexia, headache, fatigability, mental depression and the general picture of profound neurasthenia. It is under some such diagnosis as neurasthenia that many of these patients, if not correctly diagnosed, drag out a truly miserable existence.

Such cases may be very difficult to diagnose, especially when the apparently neurasthenic picture dominates. The past history may in some cases be helpful in that one may be able to trace certain digestive symptoms back into childhood. Usually, however, this is not possible and the disease picture seems to have appeared primarily in adult life. Certainly it is in adults that the condition makes itself felt. In Duval's¹ book on the duodenum, which is the best review of this subject, the author's youngest patient was twenty-four years of age. In the series recently reported by Dr. Katherine S. Andrews² from the Hospital of the University of Pennsylvania, the patients were all in early adult or middle life.

It is easy to picture how a veil or band hitherto not causing sufficient interference with bowel lumen to produce symptoms may become troublesome. Vanderhoof³ has stressed the importance of visceroptosis. Wilkie⁴ also considers visceroptosis as an important factor in producing a drag on the mesentery and emphasizes the action of a congenital lack of

fixation of the proximal colon. The influence of repeated pregnancies acting by relaxing the abdominal wall and thus favoring visceral ptosis is easily visualized. Any illness or loss of weight may similarly weaken the abdominal wall sufficiently to permit an increased drag of the duodenum on its anchoring adhesion with resulting obstruction. Constipation even may be the determining factor. Finally, the mere inevitable weakening of the abdominal walls which comes with middle age may prove sufficient. Lumbar lordosis favors the obstruction.

Sometimes one may be able to recognize that the immediate cause of the appearance of symptoms has been straining in childbirth or lifting heavy weights, but often no such relationship is evident, and if one is not alert he will fail to appreciate the manner in which changes incident to middle age are adequate to cause a silent congenital anomaly to become an active cause of illness. Such failure will readily lead to the overlooking of the possibility that a congenital lesion is at the bottom of any disorder first appearing in adult life.

It is further interesting to realize that any illness, if sufficiently serious or prolonged, may prove to be the straw which breaks the back of duodenal function. There is no doubt that in many such instances the digestive and neurasthenic symptoms have been considered a feature of the obvious disease whatever it happened to be, while the kinked duodenum, the true criminal, escaped detection. In this connection, certain instances of severe digestive disturbance attributed to incipient tuberculosis come to mind. Is it possible that in some the digestive symptoms resulted from duodenal obstruction due to a congenital band which had produced no symptoms until loss of weight from the tuberculosis resulted in greater obstruction? Once symptoms have appeared the progressive vicious circle is easily appreciated.

2. CONGENITAL CARDIAC DEFECTS.—Anomalies of the heart offer themselves as excellent examples of the point we are discussing. Different cases run the gamut all the way from the marked picture of morbus caeruleus to that of almost complete lack of symptoms. The typical symptom complex of morbus caeruleus includes the conspicuous deep cyanosis, more or less clubbing of the fingers and toes, dyspnoea both paroxysmal and upon exertion, and

1. *The Duodenum: Medical, Radiologic and Surgical Studies*. St. Louis: C. V. Mosby Company, 1928.

2. *Medical Clinics of North America*, 1930, 13, 1027.

3. *J. Am. Med. Assn.*, 1917, 69, 510.

3. *J. Am. Med. Assn.*, 1917, 69, 510.

4. *Brit. J. Surg.*, 1921, 9, 204.

finally polycythemia. Death often occurs within a few weeks or months after birth; less severe cases may survive for years.

In sharp contrast are those individuals who with a cardiac anomaly exhibit few, if any, symptoms of the lesion. The presence of the anomaly can be recognized only from the auscultatory findings. They may live for many years apparently unhandicapped by the cardiac defect. They live, however, under the threat of certain dangers. One is that of infection of the congenitally abnormal part. Just as the valve leaflet, damaged by rheumatic fever, is liable to become the seat of infection with the streptococcus viridans, so is the congenitally anomalous area liable to this infection. This is a perfect example of how a congenital lesion is a *locus minoris resistentiae* to infection and incidentally a bacterial endocarditis on a congenital lesion is another illustration of tardy disease from a truly congenital origin.

The other danger incident to an anomalous heart arises from the serious symptomatic disturbance which may result from even moderate degrees of embarrassment of the pulmonary circulation or myocardial weakening in the presence of a congenital cardiac defect.

A fundamental difference between many of the cyanosed and the non-cyanosed cases of congenital heart disease is the direction of flow through an abnormal communication such as a patent ductus arteriosus or a patent foramen ovale. In the non-cyanosed the flow or shunt is from the arterial to the venous side, an arterial-venous shunt. In the cyanosed on the other hand, it is a venous-arterial shunt. Many instances of cardiac anomaly inevitably fall in this latter class and form the group to which the old term "Morbus caeruleus" is applicable.

In addition to these two extremes there is another group of cases which for many years may present an arterial venous shunt with few or no symptoms but which may under varying conditions display a reversal of the shunt and a development of cyanosis and dyspnoea.

It was Bard and Curtillet⁵ who in 1889 first clearly described this adult manifestation of a congenital lesion under the now universally accepted term "Cyanose tardive." Maude

Abbott and Dawson⁶ have been the chief writers on this topic of recent years.

The lesions which lend themselves most often to years of life without symptoms followed by terminal or transient reversal of flow are the following: patent ductus arteriosus, localized defects of aortic septum, of interauricular septum or interventricular septum.

The literature contains most striking case reports illustrating this late cyanosis. For example, Abbott and Kaufmann⁷ report a case in which the first onset of cyanosis was at the age of sixty-four years and only six months before death. Nor is the congenital defect in all such cases a minor one; at times a widely open foramen ovale may be found. The determining factor is the direction of flow and this in turn depends upon the difference in pressure on the arterial and the venous sides. A leakage of oxygenated blood into the venous side *per se* results in no symptoms and it is only when such a shunt is reversed that cyanosis appears. Reversal of flow follows the establishment of a disproportion in pressures with the higher on the pulmonic or venous side. This pressure relation may develop insidiously as a result of slowly acting factors incident to gradual myocardial weakening or emphysema, or more abruptly under physical exertion or illness. Just as soon as a sufficient amount of unoxygenated hemoglobin is present in the arterial blood, cyanosis appears. The threshold for cyanosis is reached at about 6.5 volumes per cent unsaturation and this figure is readily reached following a reversal of flow through an anomalous communication between the arterial and venous sides of the heart. It has been estimated that, with other factors normal, about 38 per cent of the venous blood must be shunted to the arterial side to bring about cyanosis.

When an adult, previously never cyanosed and in whom no congenital heart lesion had been recognized, suddenly becomes deeply cyanosed and dyspnoeic, we must not forget the possibility that a hitherto unrecognized congenital cardiac defect is present. We are too little inclined to remember such silent congenital lesions and too quick to turn to some such rarity as an arteriovenous aneurysm which from one point of view seems a more appro-

5. Rev. de Med., 1889, p. 993.

6. International Clinics, 1924, 4, 156.
7. J. Path. and Bact., 1910, 14, 525.

priate diagnosis in an adult or elderly patient. The readiness with which one may make this mistake was brought home to me very clearly only recently by my own blindness to the true state of affairs in an adult patient with paroxysmal cyanosis of recent development. On subsequent careful questioning a story of similar attacks could be traced far back into childhood.

3. CERVICAL RIBS.—In support of our thesis from a different angle let us consider the late symptoms arising from cervical ribs.

This congenital anomaly is by no means a rare one; in fact it was noted at the Mayo Clinic⁸ in one patient of every 2,000 examined. It may at times cause most serious and disabling symptoms, but it does this infrequently and often not until adult years. The commonest period for the onset of symptoms from a cervical rib is variably stated by different writers but it is probably between twenty and forty. Many cases fall outside these limits, some being as young as twelve, others over sixty.

An enormous literature concerning cervical ribs is available; historically it goes far back into the past. Riesman's⁹ excellent review in 1904 of the history has apparently supplied many subsequent writers with their material for this phase of the subject. Streissler,¹⁰ in 1913, published an extensive monograph which covers every aspect of the subject. More recently, Adson and Coffey¹¹ have reviewed the Mayo Clinic material and advanced newer explanations for the production of symptoms and surgical technique for their relief.

Cervical ribs occur in various degrees of completeness, they are of familial occurrence, are thought by some to be a stigma of degeneracy and are often associated with other abnormalities. In 60 to 80 per cent of cases they are bilateral but bilateral symptoms occur in only a third of these cases. Unilateral cervical rib is more often on the left side but symptoms occur oftenest on the right. Adson's view is that the anatomical basis for circulatory symptoms is the compression of the subclavian artery by the scalenus anticus muscle. This is favored by the presence of a cervical rib and it is worthy of note that it is the shorter and therefore straighter cervical rib

which is most likely to produce a narrow angle between the muscle and the rib and thus cause compression. Such short ribs are less easily recognized on palpation.

In over half of the patients with cervical rib no symptoms occur; in the others they may be mild or severe. The most important symptoms are pain down the arm and in the hand, muscular atrophy, anaesthesia, and circulatory disturbances in the hand. These circulatory symptoms may be due more to thrombosis of the artery from repeated minor traumata than from actual occlusion from pressure.

Every writer on cervical rib has been intrigued by the late appearance of symptoms and has speculated concerning the factors which finally cause the onset of symptoms. Speissler enumerates the more important as follows: (1) Growth, and at puberty the ossification of the ribs, while at a later age the calcification of the cartilages. (2) Trauma to the artery or plexus as a result of movements of arm or thorax, or the carrying of weights on the shoulder. A cervical rib has been held to disqualify a man from service in certain armies. (3) Loss of weight with ensuing change in the thoracic aperture, or a similar change as a result of fibrotic contraction of an apical tuberculosis or pleurisy. He quotes others of less importance.

Adson emphasizes childbirth, rapid loss of weight, chronic nervous exhaustion and ptosis. The mechanism is clear by which these various factors act. It is a matter of mechanics in each instance; with sufficient influence on the relations of the muscles and rib to the nerves or artery to bring about pressure phenomena on one or other of the latter. In the presence of a cervical rib there is evidently a very much narrowed margin of safety in this zone, which is readily lost as a result of any one of many factors.

In none of the articles which I have read is there any mention of the possibility of emphysema being the determining factor in changing a non-symptomatic case into a symptomatic one. It would seem that in certain cases the alteration in the shape of the thoracic cage which accompanies the progress of emphysema would be sufficient to induce pressure on the artery or nerves. Furthermore, with emphysema there is often chronic bronchitis and severe cough which would supply

8. Adson, A. W.: *Atlantic Med. J.*, 1928, 31, 222.

9. *Univ. of Penna. Med. Bull.*, 1904-05, 17, 2.

10. *Ergeb. d. Chirurgie u. Orthopaedie*, 1913, 5, 380.

11. *Ann. Surg.*, 1927, 85, 839.

the repeated minor traumata needed to harm the vessel.

There is a striking similarity of this list of causes with that of the factors acting in the case of congenital periduodenal bands. Again the possibility is obvious of overlooking a congenital lesion as the explanation of a certain symptom appearing for the first time in adult life and perhaps coincidently with the occurrence of a disease which might perhaps be adequate to explain most of the symptom complex. In a patient with obscure arm pain, for example, one must be alert to recognize any factor in the recent history which might have led a previously silent cervical rib to cause pressure. For example, a patient recently reported by Oljenick¹² had bilateral cervical ribs but symptoms only on the left. This unusual distribution found its probable explanation in her occupation as a telephone switchboard operator who used the left arm as much as the right.

By recognizing such causative factors we will be the quicker to think of cervical rib in the presence of such symptoms in the arm or hand as pain, atrophy, anaesthesia, and circulatory disturbances. Undoubtedly, many cases due to cervical rib are misdiagnosed neuritis, Raynaud's disease or syringomyelia.

This mistake is the more unfortunate since treatment of the cervical rib is usually effective. Adson advises simple division of the scalenus anticus without removal of the accessory rib. This has proved sufficient in his cases. Any treatment may fail of complete success if the artery has become sufficiently thrombosed.

4. ANOMALIES OF THE KIDNEY.—Some years ago Dr. Baldwin Lucke and I¹³ reported a case which beautifully illustrates another aspect of this thesis. The patient was a fourteen year old girl who presented the clinical picture of chronic glomerular nephritis with uremia. All the usual evidences, both symptomatic and chemical, were present. Professor Stengel in ward rounds pointed out that this fourteen year old girl presented a disease picture far more common in adults, and that in attempting to explain this the only etiologic factor discoverable was a scarlet fever at the age of seven. This attack had been severe but no story of kidney involvement could be elicited.

Professor Stengel was so impressed by the inadequacy of this scarlatina as an explanation for the early appearance of chronic glomerular nephritis, that he urged us to look for additional factors and suggested that the needed explanation might be found in a congenital abnormality of the kidney. At necropsy, a most careful search revealed the presence of but a single kidney which itself was much deformed and weighed only 65 grams. This is in contrast to the usual finding of hypertrophy of the kidney when there is but one present. The small size of the kidney in this case may have been wholly due to nephritis; but it is unlikely that the organ was ever above normal in size. The obvious conclusion was drawn that the terminal picture of glomerulonephritis with uremia had appeared earlier because of the markedly narrowed margin of functional safety which resided in the single and deformed kidney.

Perhaps another congenital renal anomaly offers even a better example. This is the so-called "congenital polycystic kidney." Both kidneys are usually involved by the multiple cysts which almost wholly destroy the renal architecture and leave only thin septa of kidney tissue between the cysts.

These cysts are believed to be of embryonal origin and in some instances the kidneys are so greatly enlarged as to interfere with the birth of the child. In other instances death occurs in childhood but still other individuals with such kidneys may live to advanced years. In fact, it is commonly said that such cystic kidneys are rarely discovered before the age of fifty. When one examines the kidneys from such a patient one is amazed that renal function could have been maintained as long as it was with what appears to be a greatly reduced amount of functioning kidney tissue.

A case at our University Hospital a few years ago is a very spectacular example of this. The patient, a man of over fifty was admitted with characteristic symptoms of acute cholecystitis. By abdominal palpation a large mass could be felt in each kidney region. A suspicion of polycystic kidneys arose but the urine was normal and the kidney function satisfactory. After a few days of fever, however, the picture suddenly changed, the patient developed acute uremia and death followed in a very few days. At necropsy, it was found

12. *Arch. Surg.*, 1929, 18, 1334.

13. *Arch. Int. Med.*, 1921, 27, 661.

that there was an acute calculous cholecystitis and that both kidneys were apparently composed wholly of multiple cysts. It was scarcely possible to find any kidney tissue containing glomeruli or tubules.

Kidney function had been just sufficient to meet the ordinary demands of life but when the cholecystitis developed the hitherto silent congenitally anomalous kidneys lost their little margin of safety and fatal uremia developed. This case is not unique but exemplifies well this form of tardy symptoms from congenital lesions.

The usual clinical signs of this condition are (1) the bilateral renal tumors, (2) intermittent hematuria, (3) eventually the picture of chronic glomerular nephritis usually terminating in a fatal uremia. Diagnostically one must not forget the possibility of the presence of this congenital lesion in the case of an adult with any part of the above picture nor in instances of early or seemingly atypical chronic glomerular nephritis.

DISCUSSION.—There are many other examples which one is tempted to include but they would add little to the points already made. It would be worth while, if time permitted, to choose for discussion some striking instances of the well recognized tendency of a congenitally abnormal tissue to undergo carcinomatous change in later life or to become the seat of an infection. Supernumerary breasts or undescended testicles would be examples of this greater susceptibility to malignant tumor; Meckel's diverticulum or congenital cardiac anomalies are examples of lesions on which subsequent infection is likely to lodge. Meckel's diverticulum, due to the failure of closure of the omphalomesenteric duct, is also a not uncommon cause in adult life of intestinal obstruction.

Anomalies of the uterus render that organ more liable to malignant tumors but far more interesting for our thesis are the difficulties which may arise from an anomalous uterus during pregnancy. In this example, we find a silent congenital lesion causing symptoms and dangerous ones, for the first time in adult life as a result of the demands made upon the organ by what should be for it a physiologic process.

These few examples must be trusted to illustrate the subject. They would seem to be

adequate to prove the point that many congenital lesions do not cause symptoms or at most very trifling ones, until the patient has reached an age at which we are tempted to overlook the possibility of a congenital lesion.

In every instance it would appear that the development of symptoms was the result of the entrance into the situation of some additional factor. The silent congenital lesion alone would have continued silent; the added factor would not have caused other than its usual symptoms without the preexisting anomaly. A normal adult passes through a debilitating disease, loses much weight but without secondary disturbances. The same event in an individual with any one of several congenital anomalies may be sufficient to initiate serious trouble. We have seen how loss of weight may precipitate the symptoms due to cervical rib or to periduodenal veils.

Again a normal adult ages physiologically with a progressive narrowing of the margin of safety in every part which, however, proves adequate to weather the minor strains of intercurrent infection, *et cetera*. The hidden anomaly comes to light symptomatically under similar conditions; the margin of safety already narrowed, fails abruptly and unexpectedly. A degree of myocardial weakness which could be ignored in the otherwise normal individual may prove sufficient to reverse the shunt through a patulous foramen with startling results.

A congenital anomaly may lead to disease in a great variety of ways: it may interfere with a physiologic process as in pregnancy, it may hasten the functional failure of an organ as the kidney, it may by its perversion of normal anatomical topography lead to disturbances of neighboring structures (intestinal obstruction from Meckel's diverticulum). By its abnormal structure it may be the site of unusual irritation, thus offering a favorable opportunity of tumor development. Similarly, its abnormal relations may invite infection just as harmfully as do the valve leaflets distorted by rheumatic infection.

All these phases of the question we visualize quite readily; the lesions are gross, the results obvious. But can we not go further? We said at the start that there are many aspects of this question which we cannot intelligently discuss. We are helpless still in explaining such hereditary phenomena as allergy; we do not know

what the underlying basis is nor what factors determine the appearance of symptoms sometimes after years of life without any manifestation whatever.

Between these two extremes, the gross anomaly on the one hand, and the still undefinable hereditary tendency on the other, there must be a group about which we can hope to learn. In this would be included, for example, organ hypoplasia. Whether or not an organ smaller than normal is an anomalous organ may be merely a matter of definition. But it is very important to know whether such an organ when subjected to factors of aging, infection or strain, will fail in one way or another sooner than one of more usual size. This problem as it applies to the heart is now being studied in the Robinette Foundation at our University Hospital by Drs. Wolferth and Wood.

In closing, it is unnecessary again to emphasize the diagnostic moral pointed by these remarks. It must be obvious that there is no age so advanced at which a previously silent congenital anomaly may not first make itself troublesome. Always some exciting factor must cooperate to this end but we are often unable to identify such factors. Certain ones are so frequently responsible that we should be quick to suspect a congenital lesion when new symptoms appear in an individual recently the subject of such influences.

Finally, one cannot help philosophizing concerning the influence of no matter how trifling a deviation from the normal upon the survival of the individual. It would seem that we are tending to a greater and greater appreciation of this principle in the study of the individual and his reactions to his environment. From such a point of view, congenital lesions of every grade must play a most important part.

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DEPRESSOR SUBSTANCE OF LIVER IN THE TREATMENT OF HYPERTENSION.*

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Liver products now generally used in the treatment of disease are of recent development, although liver substance as medicine in some

form was used by the ancients. Prior to the development of the study of anatomy the Babylonians and Assyrians, who foretold futures by reading omens in the liver, recognized three main lobes. This first studied viscus, because of its vascularity and the association of blood with life by early races, was considered the seat of the soul. This belief was present even with the early Greeks and Romans, and the year 274 B. C. is mentioned in the writings of Pliny as the date the heart was first used for divination purposes.

The medicinal uses of liver by the ancients is set forth in the last book of Paulus Aegineta, written twelve hundred years ago, as follows, "Hepar, the Liver; if that of a mad dog be roasted and eaten, it is said to relieve those who have been bitten by him. The sanies of a boiled goat's liver relieved nyctalopia when injected into the eye. They also direct the vapour of it, when boiling, to be received into the eyes, and also to be eaten. They say that it rests epileptics if eaten, and that the liver of the buck-goat does the same. The liver of a lizard when put into carious teeth relieves the pain. That of the wolf is added to the hepatic medicine prepared from eupatorium. The liver of an ass when roasted is of use to epileptics when fasting. That of a bear, when dried in its fresh state and triturated with wine, is drunk for the bites of reptiles. The liver of the Cormorant, when dried and taken in a draught, makes calculi to be discharged."

In the nineteenth century, Claude Bernard first classed the liver as an endocrine organ in addition to its exocrine function, which is the formation of bile, after his discovery that sugar was formed from the blood by the liver when no sugar had been eaten.

This discovery was made by finding dextrose in the hepatic vein of a dog which had been fed wholly on meat.

For many years biliary products, either bile or bile salts, have had a recognized place in medicinal therapy, the application of which was extensive, first in France.

In 1926 and 1927, which was about the time that depressor liver substance became available for treatment purposes, Minot and Murphy demonstrated that the health of individuals suffering from pernicious anemia could be greatly benefited and their blood cells returned to approximately normal by the ingestion daily of an adequate amount of a substance found in

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

mammalian liver. The benefits were obtainable by eating raw or cooked liver or by taking a liver extract. The liver fraction containing this hemopoietic hormone differs from the fraction containing depressor substance in that it is water soluble only, the other being alcohol soluble.

Heidenhain published for the first time, in 1891, a record of an experiment showing a temporary fall of blood pressure following intravenous injection of liver extract. In 1909, Bingel and Strauss made a series of similar observations. In 1911 and 1912, Miller and Miller reported that extracts of the liver invariably gave a temporary fall in blood pressure in animals. Abel and Kubota, in 1919, described a temporary fall in blood pressure following intravenous injections of liver extracts, and discussed the possibility of the result being due to the histamine content. All of these earlier observations were made by intravenous injections in laboratory animals.

In 1924, M. J. Macdonald, of St. Catherine's, Ontario, first observed clinically the depressor effect of liver extract in the human being. This came about in the course of experiments during the previous year, working on the idea that the liver was a defense organ with some special influence that might be utilized in the prevention of cancer. His observation that certain liver extracts exerted a notable depressor effect caused him to study, with the extract, 33 cases of clinical essential hypertension. The results were so encouraging that an intensive study, physiologically and chemically, of liver extracts was then begun. An observation by Macdonald was that blood pressure was temporarily lowered after an injection of histamine, whereas a lower pressure effect was maintained for a much longer period by the extract.

Parallel with Macdonald, R. H. Major, of the University of Kansas, was working on the same problem. His researches advanced around guanidine and methylguanidine, and he showed that prolonged pressor effects were brought about by these substances and that liver extract controlled this pressor effect, parallel with the reduction in excessive blood pressure.

The work of Banting which isolated insulin by alcoholic fraction of the pancreas stimulated Harrower to apply this method to other tissues, and in the summer of 1925 he succeeded in preparing an active, stable solution of liver

extract by alcoholic fraction. This liver principle he calls anabolin, because he considers that it brings about detoxication and lowered blood pressure as an anabolic process in building up amino-acids into urea.

Professor A. Sato, of Japan, asserts, after experimenting with over 1500 rabbits, that liver extract contains, "a detoxication hormone of the liver." He reports experiments indicating that liver extracts are capable of nullifying the convulsive action of histamine, chloroform, and ammonium chloride. He also shows that the extract will overcome the toxic effects of large doses of urea.

Inasmuch as my experience in the treatment of hypertension with liver extract, over a period of three and one-half years, has been exclusively with anabolin, I feel it would be well here to give the essentials of preparation, its standardization, and chemical analysis.

Preparation: "Mature, healthy livers are cut up, freed from blood and bile, and drained. The diced material is then placed in a rotating pebble mill with alcohol, and the mixture is allowed to grind for a prolonged period. The cream-like product is then allowed to separate, the cloudy alcoholic solution is decanted, the precipitate of liver debris being separated by passage through a pressure filter. The solid residue is discarded. The clear alcoholic solution is then concentrated in vacuo. At a certain degree of alcoholic strength the precipitate is formed, and the alcohol is then distilled for further use. An aqueous solution of this precipitate contains the anabolin and several other soluble proteins and amino-acids in varying amounts, such as peptone, choline, and histamine." These four substances have different solubilities, and in this way they are all satisfactorily separated from one another. The finished anabolin product is water soluble and may be preserved with customary preservatives, such as chlorbutanol, etc. Sterilization is accomplished by passing the solution through a Berkfeld filter. The residue for oral administration is produced by vacuum desiccation of the finished standardized solution. The dose is based upon the relation of the powered concentrate to the original amount of solution. This residue is diluted with milk sugar and made into tablets each representing 1 c.c. of standardized solution.

Anabolin solution is standardized by kymographic tracing of blood pressure after injection.

tion of a 10 kilogram dog. One cubic centimeter of the solution is made to produce a 12 mm. drop in blood pressure. Uniformity of effect is determined by comparison between injections of the standardized solution into several different dogs of similar size and obtaining similar reductions. It is also determined by reinjection of the same dog bringing about the same fall in blood pressure at subsequent intervals.

An analysis of anabolin shows that choline is entirely absent and histamine is in negligible quantity (.0001 gramme per c.c.). There are some investigators, among whom are Dale, of the National Institute for Medical Research, in London, and Prof. Abel, of Johns Hopkins University, who still believe that histamine in liver extract is the substance responsible for its depressor effect. Some of the observations by Harrower, in the support of his contention that anabolin is entirely a separate substance from histamine, are that histamine is virtually insoluble in ether while anabolin is soluble, and the depressor effect of these two substances is somewhat different in character. The depressor effect from histamine is sudden and of short duration, whereas, after an injection of anabolin, the depressor effect is not so sudden and far more lasting.

In laboratory animals, when the blood pressure has been elevated from an injection of methylguanidine, the blood pressure will slowly fall to normal after an injection of liver extract but does not go below normal unless a very large dose is employed.

This is in marked contrast to the sudden drop from an injection of histamine. A dosage of histamine necessary to lower the increased blood pressure, produced by guanidine, will also depress the normal blood pressure, whereas 15 or 20 times the dosage of liver extract required to reduce the pressure to normal may be required to depress the normal pressure.

It seems well proven that liver extract is not toxic, even in very much larger doses than is necessary to reduce an elevated blood pressure. In conditions where hypertension is organic in origin and necessarily compensatory, such as renal sclerosis, the effects of liver extracts are negligible. Clinical application, however, so regularly promotes a feeling of well-being that it seems consistent to conclude that much of this benefit is due to detoxication effects in

arousing the liver to renewed anabolic activity.

My clinical observations, after three and one-half years of very active use of liver extract in the form of anabolin, has convinced me of its extreme usefulness in treating hypertension and associated subjective complaints. Where there appears to be definite evidence of arterial sclerosis and renal sclerosis, it might seem that liver extract should not be used. However, in such a vast majority of cases where this is present, there is an over-lapping toxic state which in itself may be responsible for some of the complaints of pressure elevation that I have found it wise even here to use this remedy. The clinical improvement brought about is often far beyond expectation and such complaints as headache, vertigo, and general lassitude are relieved very much out of proportion to the associated reduction in blood pressure. Such toxic symptoms may be relieved after an injection of 1 c.c. of liver extract when the reduction in pressure may amount to no more than 10 mm. It is not unusual to see a very rapid decline in blood pressure in hypertension cases so treated which are not due to organic change. Often there may be a drop of as much as 30 mm. from a single injection. My experience has been such as to justify a moderately slow reduction in blood pressure and I find it seldom necessary to use more than one injection of 1 c.c. daily. It is well to regulate the habits of the individual and to prescribe a suitable diet in conjunction with the treatment with liver extract. I am sure this plan is entirely rational, as the surcharged system is aided in the elimination of waste products, thus lessening the strain on the vital organs. I have not observed any contraindications clinically to therapeutic doses of anabolin. It is unquestionably of value in the treatment of toxemia of pregnancy and pre-eclampsia.

Granting that in many cases of toxic hypertension the attack will be of short duration, it is my belief that recurrences of this state are forerunners of, and conducive to, more permanent hypertension, and I believe it best to treat these, as all cases, with liver extract in conjunction with regulation of diet and habits. It may be argued that this type of case can be treated satisfactorily by regulation of habits, exercise, and diet, and, supposing that this may be true, I am sure such treatment without liver extract would not be so prompt, nor would a sense of well-being be established as early.

One of my earliest cases treated with anabolin was a lady of 52, who had carried a high blood pressure, to my personal knowledge, for more than 10 years. During this period, she complained greatly of headache and shortness of breath on exertion. Ten years prior to starting treatment she had a rather severe nasal hemorrhage, and at a subsequent period, a pulmonary hemorrhage due entirely to the high blood pressure. Her blood pressure in 1919 was systolic 220 and diastolic 140. It was necessary to resort to blood letting at intervals of 4 to 6 months to bring about relief from severe headache. This program of bleeding was kept up from 1919 to the early part of 1926. Usually after the removal of one pint of blood, symptomatic relief, with a drop in blood pressure of approximately 25 mm. of mercury, would follow. In July, 1926, anabolin therapy was begun. Since that time it has not been necessary to bleed her. I have found that she feels best when the blood pressure is S. 190 and D. 110,—this seems to be her physiological blood pressure level. With the advent of headaches or general lassitude, she reports for examination, and I usually find with these symptoms that the blood pressure has gone up to about 220 systolic. Usually four to six daily injections of 1 c.c. of liver extract will reduce the blood pressure to the physiological level of 190. With the first injection there almost invariably comes relief of headache and lassitude. Such treatment has been necessary in this particular case from two to four times a year in order to keep her comfortable.

I have recited this case more in detail to show the effect of treatment in the type of case where there is evidently considerable organic change with a superimposed toxic element.

Many cases that I have treated have remained at a practically normal blood pressure level over a period of from one to three years following several daily injections of anabolin. It is seldom necessary to give a continuous course of injections for longer than one month, even in the most extreme cases.

My own father, who is now 78 years of age, was treated one year ago with anabolin, his blood pressure being 190 systolic and 120 diastolic. He complained of extreme dizziness, lassitude and physical weakness. After 10 daily injections the systolic pressure was brought down to 140 and the diastolic to 90. At the

present time, one year later, his blood pressure is S. 140 and D. 100, and he is a comfortable active man for his years.

I have treated many cases of hypertension immediately following attacks of apoplexy, with liver extract, and in several instances have noticed after a series of daily injections, bringing the blood pressure to a reasonable low level, that the blood pressure has remained low for a period of months without a continuation of the injections. I have not been able, clinically, to get satisfactory results with liver extract given by mouth. This has been disappointing to me, and is at variance with Harrower's claims.

I have not attempted to present my treated cases in tabulated form because the therapeutic effect of liver extract has now become generally recognized. During the past three and one-half years I have used anabolin therapy in a series of 150 cases and have been able, almost without exception, to bring about reasonable symptomatic relief and in a vast majority a very marked reduction in the state of hypertension.

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DISCUSSION.

DR. W. B. PORTER, Richmond: When one considers the broader aspect of hypertension he is immediately confronted with many conflicting ideas. In a discussion of any therapeutic measure it is wise to carry constantly in mind the classification of hypertension as we see it clinically. Hypertension is classified into two major groups: Group 1, which is associated with a primary renal disease, the so-called diffuse glomerular nephritis; and Group 2, which begins primarily with hypertension, to be followed by the secondary vascular changes which affect in a varying degree the different members of the somatic systems. Evidence is increasing on all sides that the structural changes in this latter group are not the fundamental factors involved at the beginning, but the flood gates of peripheral circulation closed by a pathological constriction of the arterioles, thereby raising peripheral resistance and increasing intravascular pressure. Any procedure which will open these "flood gates" is rational and will lessen the progression of vascular pathology. In the past we have labored under the impression that in this latter group hypertension was a necessary thing. I think the more evidence we get the more we are convinced that that is a mistake.

I think it is unfortunate that Dr. Willis did not catalog his cases into the different types of hypertension, including charts showing the specific elevation in his cases, the number of treatments that were necessary, the length of time he maintained normal pressure or reduced pressure between injections, and the general characteristics of the individuals he has treated.

I read the paper with a good deal of interest and feel that Dr. Willis is getting results with this substance which are suggestive and warrant consideration by each of us. I, myself, have used in some twenty cases the substance formerly made by Lilly. Frankly, I was disappointed. However, the field is promising, and I think it behooves each of us to think about the subject along the lines which Dr. Willis has discussed, and that in that large group of the cardiovascular cases with relatively normal renal function we are justified in treating seriously any remedy which will reduce the hypertension, provided it does not cause any harmful effect upon the heart muscle.

I think Dr. Willis, in publishing his paper, would do well, for the sake of those of us who are interested in the subject, to go to the trouble of classifying his cases and tabulating them, so that we would have these data before us for comparison with other reports which have come out in the last few years on other substances which are used for the relief of this rather serious malady.

DR. WILLIS, closing the discussion: I considered it wise to present this subject for consideration, because I know I have gotten symptomatic relief in a large number of patients. I have treated approximately one hundred and fifty patients in the last three and a half years who had definitely elevated blood pressure, and I feel sure there have not been five per cent of those patients in whom the blood pressure has not been materially reduced. Even in cases that have had strokes of apoplexy, with very high pressure, I have been able to reduce the pressure in many to normal and months afterward have found the pressure still normal in some cases.

The men who try to do something and fail are infinitely better than those who try to do nothing and succeed.—*Selected.*

SYMPTOMATOLOGY OF HYPOTHYROIDISM.*

By PHILIP S. SMITH, M. D., F. A. C. P., Abingdon, Va.

The symptoms resulting from hypothyroid states have been of comparatively recent recognition. The attention of the early workers was directed primarily to overactive disorders of the thyroid gland. The mere mention of such names as Graves, Parry and Basedow illustrates the point in mind. It was not until a number of years later that Gull, Ord, the Reverdins, and others recognized the relationship between deficient thyroid secretion and the disease entities, myxedema and cretinism.

Still more recently was there a general appreciation of the clinical importance of hypothyroid states which represented neither of the advanced conditions, cretinism nor myxedema. In fact, moderate hypothyroidism was not given a legitimate status in the mind of the average physician until after the introduction of indirect calorimetry. Even after the metabolism apparatus became simplified and generally available, most patients referred for metabolic determinations were those suspected of hyperthyroidism. A review of our metabolic records during the past eight years shows a strikingly increasing percentage of patients each year with lowered metabolic rates. This does not imply that the local incidence of hypothyroidism is greater than formerly, but rather the fact that it is being more frequently suspected clinically, and metabolic tests more generally made, in our patients. Among 19,400 patients examined, our records show a diagnosis of hypothyroidism (including myxedema and cretinism) in 240,—or slightly more than 1 per cent of the total.

The classical pictures of cretinism and myxedema are recognizable without much difficulty. Most cretins are thought to have little or no thyroid secretion at birth. Others who have normal thyroid function post-natally appear to lose suddenly most of their thyroxin output, probably as the result of systemic infections. It is infrequent that cretinism is suspected before the sixth month of life. After that age the observant mother may note that certain mental and physical developments, normally expected, fail to materialize. Usually at first it is merely a lack of interest in objects given to amuse the infant, or a failure

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to sit up unaided at the expected time. Later, if the disease is not recognized and combated, the long bones enlarge but do not lengthen; the skull may become elongated from front to back; dentition is delayed; the soft tissues are pudgy and lack tone; the hair is dry and coarse; the "pot-belly" with its frequently associated umbilical hernia causes maternal concern; the open mouth, thick tongue and broad face give to the features an inane expression which reflects the lack of mental development. And yet, many such children are allowed to pass the first twelve months before the family physician is given the opportunity of engaging in one of the most satisfactory therapeutic procedures in the entire field of medicine. The chances of a normal physical and mental development are greatly reduced if treatment is not begun during the first year of life.

Myxedema, like hyperthyroidism, has a much higher incidence in females than in males. There is much evidence, clinical and experimental, to suggest that the rate of exhaustion of thyroxin in the body of females is higher than in males. Usually the syndrome does not develop until the individual approaches middle life when recessive changes in other endocrine glands also may be expected. In other cases the thyroid deficiency, developing earlier, probably results from a previous acute thyroiditis. Though occurring usually after physical and mental maturity has been attained, the symptoms of myxedema have many points in common with cretinism.

Typically, the soft tissues appear bloated with irregularly distributed pads of non-pitting edema, composed of a mucin-like substance infiltrating the deeper skin strata and mucous membranes. The features are stolid, the expression lethargic, the tongue thickened, and speech slow and drawling. Loss of hair, brittle, striated finger nails, and the dry, thickened, inelastic skin suggest trophic changes; pigmentation of the skin is not infrequent. Mental apathy, with impaired memory, headache, and drowsiness indicate the low ebb of cerebration. A true psychosis may ensue. Excessive clothing is worn to combat cold; fatigue and weakness increase proportionately with gain in weight. Metrorrhagia or early amenorrhoea indicate the probable relationship between the disturbed thyroid and ovarian functions. The heart rate is slow and the blood

pressure frequently is lowered. Constipation and digestive disorders are common, while sugar tolerance is usually increased as nitrogen and water are retained and anemia develops. The picture is strikingly like that of a hibernating animal.

Metabolic determinations in both cretins and myxedematous patients are merely confirmatory and serve as a guide to the required dosage of thyroxin or thyroid extract. Rates as low as minus 40 may be encountered in well developed cases. A rate above minus 18 practically negatives the diagnosis.

The third group of patients with hypothyroidism includes those with symptoms reflecting less marked thyroid deficiency. Diagnostically, they require a greater clinical acumen. Doubtless a large percentage of them are not recognized, as their symptoms oftentimes are interpreted as functional states,—particularly the neuroses. Many are detected by the more general employment of metabolic tests in individuals with ill-defined clinical syndromes.

I should not like to be understood as intimating that every patient with a lowered metabolic rate is an instance of *primary* hypothyroidism. In our experience, some with lowered rates do not tolerate thyroid therapy and, hence, are not regarded as having deficient thyroid secretion.

I recall an emaciated young woman, of a neurotic type, who gave a persistently lowered metabolic rate. She was not appreciably helped by desiccated thyroid gland. With appropriate treatment of her ureteral stricture and low-grade pyelitis, she was induced to increase her daily caloric intake to a figure commensurate with her body needs. Following a satisfactory gain in weight, her symptoms largely disappeared. Instances of this sort have been encountered not infrequently during recent years when the feminine ambition to retain the prevailing slender, boyish figure necessitates a state of semi-starvation and under-nutrition. From a therapeutic standpoint, the "Lucky Strike" in such cases is neither nicotine nor thyroid extract, but rather a full dinner plate containing not only the needed calories but an equally important vitamin-rich ration.

In 1926 I reported the incidence of lowered metabolic rates in twelve girls and young women, most of whom had symptoms clinically suggestive of hyperthyroidism. In some there

was tachycardia; 50 per cent were under their ideal weight, age and height considered; 63 per cent complained of nervousness and weakness; and in 87 per cent some degree of thyroid enlargement was noted. Incidentally, adolescent goiter is frequently associated with lowered metabolism. Some of these girls were definitely relieved of their symptoms by adequate doses of thyroid extract. Others in the group were not materially benefited even after an elevation of their metabolic rates had been effected. In view of the well-known specificity of thyroxin or thyroid extract in relieving the symptoms resulting from a primary hypothyroid state, absence of clinical improvement in patients with lowered metabolic rates practically acquits the thyroid gland as an etiological factor.

Since 1926 our records show an increasing number of young females with abnormally low rates without typical symptoms of hypothyroidism. Plummer's theory of a "secondary hypothyroidism,"—a type in which he believes the lowered metabolic rate and symptoms "exist when the body's physiological reactions do not demand the maintenance of a normal level of thyroxin in the tissues."—is of interest in this connection. Starvation, chronic infections, wasting diseases, pituitary and ovarian disorders, and certain psychoses are thought to cause such depressed metabolic states.

The lassitude, stunted stature, increased carbohydrate tolerance and mental lethargy of the natives of the tropical zones suggest a hypothyroid condition as characteristic of such races. Even in our Gulf States we see evidences of similar, though less pronounced, physical and mental inertia. In a number of presumably healthy, normal young women attending the University of Florida, a series of metabolic determinations was made; the abnormally low rates obtained, as compared with accepted standards of normal, further indicates the probability of an adaptation of the body to its temperature and climatic environment without thyroid abnormality. In the absence of symptoms, there would be little justification in raising with thyroid extract the metabolic rates of these girls to a level maintained by a similar group of healthy young women in our northern universities.

In this connection, it is interesting to note that during 1927 and 1928 our records of pa-

tients with metabolic rates under plus 20 per cent show that the lowest average rates are obtained during the Spring and early Summer months as the sun's rays are filtered through a diminishing atmospheric belt in its approach to the summer solstice; thereafter the average basal metabolic rate rises through the Fall unless there is unusual lack of cloud. These investigations were prompted by Dr. James H. Smith, of Richmond, Va., who had previously noted practically similar curves from a statistical study of his patients' metabolic rates.

The clinical picture in moderate, primary hypothyroidism varies greatly. While there are striking exceptions, the symptomatology is usually in direct ratio to the degree of thyroid deficiency and suboxidation. Thus, we may encounter patients with symptoms so atypical as to tax our diagnostic powers until metabolic tests furnish the clue; others are quite characteristic early in the course of investigation.

I believe that mental and physical fatigue, easily induced and otherwise unexplained, is one of the most common complaints. A history of a previous sub-total thyroidectomy or thyroiditis should arouse our suspicions of thyroid inadequacy. When occurring, as often happens, in women approaching the menopause, other symptoms, usually attributed to the climacteric, are frequently encountered. Dull headache, nervousness of various types, drowsiness, loss of hair, some thickening and drying of the skin, chilliness, subnormal temperature, joint pains, irregular or scanty menstruation, constipation, digestive disorders, obesity, bradycardia and lowered blood pressure are other features of the disease which may be present.

However, we do not expect all of these symptoms and physical stigmata in the same individual. Like other disease entities, the classical picture is not usually complete in all details. Many patients, as I have indicated, present as their major complaint symptoms that are not generally associated with hypothyroidism, though their prompt response to specific therapy leaves no doubt as to the causative factor. These more atypical expressions of the disease can be understood when it is recalled that hypothyroidism, with its uniform thyroxin reduction, affects, directly or indirectly, the normal function of practically every organ of the body.

Naturally, in children moderate hypothyroidism presents a clinical picture quite different from that ordinarily observed in women of middle age. It's relatively infrequent incidence in young individuals, the unsatisfactory cooperation of most children in making metabolism tests, and the lack of uniformity in the tables of normal oxygen consumption for those under fourteen years of age, add greatly to the difficulty of diagnosis. Some of these children have alert minds and normal physical development; most of them are mentally sub-standard with the Binet tests, or their school-grades reflect their handicap. A tendency to over-weight, fatigue, dental abnormalities, and in the more advanced cases other symptoms quite suggestive of rickets may be present.

Our records include relatively few male adult patients regarded as hypothyroids; there is a probability that many more have been overlooked,—particularly in the earlier years of our work. Briefly, unexplained fatigue, inability to work with sustained mental concentration, vague nervous symptoms, increasing weight, and the necessity of wearing heavy clothing to maintain body comfort should prompt metabolic tests. Occasionally, the male syndrome is quite as typical as in females.

In conclusion, I would suggest the need of more general appreciation of thyroid deficiency in many ill-defined complaints, especially in females of all ages; the more frequent employment of metabolic determinations in such patients; recognition of the possibility of contributing causes of lowered metabolism other than "thyroid failure"; and, finally, intelligent correlation of symptoms, physical signs and metabolic rates. Symptoms and pathologic changes, rather than mathematical calculations of oxygen consumption, demand our recognition; metabolic tests, like other laboratory aids, are often most helpful in diagnosis and treatment.

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VARICOSE VEINS.*

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By the processes of elimination human ailments are being put aside as we conquer them, and the lesser ills are acquiring space and time for study and correction. Perhaps the main

reasons why varicose veins have not been studied before is because death seldom results from them. They do, however, rank high in contributing to personal disability and suffering to those afflicted by them.

Word derivation and building always seems most interesting, and in any subject is the first thing to study, but with varicose veins we derive less than the usual help, in the "shade" of meaning, for it comes from the Latin "varicosus," which simply means dilated. Therefore, a varicose vein is a dilated vein, and may be classified according to various methods, according to the shape of the dilatation, according to the pathology of the dilatation, according to the size of the dilatation.

By common acceptance, "varicose veins" usually is used to refer to affected veins of the lower extremities, although it can mean any dilated vein.

The pathogenesis is being studied more detailedly and carefully, and, while there is the old idea of "back pressure" from mechanically narrowing the lumen or obstructing the flow of blood in the veins, at some point, this may have an effect, which is contributory. The more recent and perhaps acceptable theory is that endocrine disturbances have a causative influence. Infectious processes frequently precede their development, and it is not infrequent to observe them in post-typhoid and asthenic states. They frequently occur during and after pregnancy. They are always aggravated by occupations requiring much standing.

They are more frequently in multiparous women than in other people, and the endocrine unbalance existing during pregnancy is probably responsible for the thought suggesting this causative factor. The endocrine unbalance is believed by Delater to exert its influence through the sympathetic nervous system.

The symptoms described by the patients are sharp, lancinating pains along the parts affected, aching and weight in the limbs, fatigue that develops easily and quickly, and itching. Objectively, you see the dilatation itself, which is the diagnosis. There is frequently eczema or ulceration, or areas of pigmentation that represent the burned over battlefields, where eczema and ulceration have left their shell holes and charred battle areas, as the tissues wrestled with and overcame the processes which were attempting destruction.

Treatment has been, formerly as now, di-

*Read before the Clinical Club of Stuart Circle Hospital, Richmond, Va., February 26, 1930.

rected at either support or elimination of the vein.

Mechanical support has been offered entirely as an external appliance of some elastic medium, either elastic bandaging, elastic stockings, cuffs, or gelatined bandages applied probably at weekly intervals, while calcium, parathyroid extracts, vitamins and general tonics have been used to increase the strength of the vein walls as a part of the general body building program.

Long periods of rest in bed, with elevation of the affected member, have been resorted to in some cases, especially where ulceration existed. Usually this will cause the ulcers to heal and, with proper mechanical support, they may or may not recur.

Surgery has been resorted to where it could be proven that the deep veins were not occluded and the removal of the superficial veins would not destroy the circulation of the part, and, either by excision of a portion of the vein or by "stripping" out the most involved parts of the vein, the return circulation has been directed through the deep veins, which are supported more adequately by the muscles and fascia. This, of course, calls for a period of quiet and disability following the operation, and this period of inactivity, with its moderate amount of suffering, has been a reason for continuing with partial disability in many of these cases.

Humphries, Fraikin and Burrell report curing cases of long standing by ultraviolet irradiation. The speaker can understand how ultraviolet may help an eczema with pruritus, how it can perhaps increase the strength of the wall, but not how it can reduce the size of a dilatation. But several patients have been given several weeks of ultraviolet irradiation purely as an experiment, and in no case was there the slightest noticeable improvement. But perhaps the most satisfactory treatment of varicose veins is obliteration by injection of some mild escharotic which, when diluted by tissue juices in the body, becomes harmless later on.

McPheeters seems to be the principal and earliest American disciple of this treatment, while Sicard, Borchers, Birendemfel, Linser, and others, represent the foreign schools. Cases are being reviewed in various papers, which draw conclusions from ten or fifteen cases injected, or in some cases 53,000 is the grand total from which deductions are drawn.

Fatalities are reported from injection treatments as about one in 4,000, as compared to one in 240 treated by surgery. Embolism is so rare as to be doubted as the cause of death, but has been listed in a few cases, where autopsies were not done, as the cause of death.

Various fluids used are, in part, solutions of glucose, glucose and sodium chloride, sodium salicylate, mercury iodide, argochrom, mercury bichloride, alcohol, quinine and urethane hydrochloride. There are a few which contain some anesthetic to prevent cramping—for instance, varicophthin. The speaker has confined his uses so far to glucose, glucose and sodium chloride, sodium chloride, and quinine and urethane.

The patient is examined to attempt to exclude the possibility of occlusion to the deep vein, then the vein to be injected is chosen, and a tourniquet applied above to distend the vein, also one below to prevent the inflow of fresh blood. A comfortable position is selected for both patient and operator, and the vein is pierced with a sharp, short beveled, fine needle and the blood is removed from the vein either by removing the proximal tourniquet and stroking along the vein, then reapplying the tourniquet, or by aspirating the blood. Then the selected fluid is injected in an estimated approximate amount according to the fluid used, and the size of the vessel injected. Some form of double control syringe, of 10 c.c. or 20 c.c. capacity, with a needle locking device seems almost essential. Utmost care must be used to avoid spilling the smallest quantity of fluid into the tissues, and, if the vein is penetrated through, the area should be abandoned until the puncture has time to heal, for even the leakage through the needle hole may be sufficient to cause pain and chemical inflammation. In one case observed when the smallest quantity of fluid was so left in the tissues, a slough occurred, and has been about three months in healing. This, of course, is embarrassing and unsatisfactory, and thwarts the good by upsetting the reputation of the method. Utmost care should be used when the needle is withdrawn to insure no leakage into the tissue through this needle hole, and compression in some positive form should be exerted over the area chosen. After about twenty minutes the tourniquet may be released and the patient walks from the office. He should be instructed to walk and exercise

moderately for the next forty-eight hours, as this will help keep the deeper vein massaged, so as to empty the small amount of fluids which may gain access to them through anastomosing branches.

Tell the patient, however, that there will be some tenderness, perhaps redness, along the injected branches. This is to be expected when the method is understood; also tell the patient to expect some cramping for three to ten minutes following the injection. This cramping is most probably due to the irritating effect of the injected fluid upon the nerves of the veins and their branches and seems to affect different muscles of the leg according to which areas are injected.

In choosing the parts to be injected, it is better, generally, to begin in the more distal portions and work forward, injecting 3 to 5 inches of a vein at a time.

The results have been most satisfactory, so far as venous obliteration is concerned. Unshapely legs have been distinctly improved, and this certainly constitutes a consideration with both male and female. It is unusual for patients not to say they feel better even two or three days after the first injection, and as obliteration progresses they are gratified.

The patient may be informed that a varicosity will not recur in the obliterated vein, but frequently a parallel vein may later develop a varix; if it does, it may be then injected.

Of about eighteen cases treated, two have been somewhat disappointing,—one mentioned above, which sloughed, and another which had been found when suffering with erysipelas. The erysipelatous process was allowed to subside and, after two weeks, the patient was injected in the opposite leg. Forty-eight hours later she developed a case of erysipelas in the injected leg; however, the process subsided after several days, and the patient is now gratified by the result obtained in the obliteration of her varicosities. Notwithstanding this, it is not the speaker's intention to inject glucose solution into a patient who has recently had erysipelas. It is his belief that the occluded vein, with its dextrose and blood clot, furnished suitable media for the process to develop.

In conclusion, it would seem that there has been enough work done with injection of veins to remove it from the experimental stage. Perhaps a more ideal injection fluid may be

evolved, but the ones we now have from which to choose already allow some latitude in the matter.

LIGATION OF THE EXTERNAL CAROTID ARTERY TO CONTROL NASAL HEMORRHAGE.*

By ALLEN T. HAWTHORNE, M. D., Winchester, Va.

The average case of epistaxis can usually be controlled by the methods commonly advocated in textbooks, such as anterior and posterior tamponing, hemostatics, sera, radium, or the cautery. However, there occasionally occurs a case of nasal hemorrhage which ordinary means will fail to control. A hemorrhage of this type can be of such a degree as to become alarming both to the physician and to the patient. This type of hemorrhage usually follows some operative procedure within the nose, or some violent injury to the nose, although F. T. Hyde, of Port Angeles, Wash., reported a case of idiopathic nasal hemorrhage which could only be controlled by ligation of the external carotid artery.

The cases on record where ligation of the external carotid artery has been resorted to, to control nasal hemorrhage, seem to be comparatively rare. Why this should be, I do not know, because certainly this method must have been used more than the literature would indicate. Hodges McKnight, of Fort Worth, in reporting a case of carotid ligation to control epistaxis, states that, after a rather exhaustive review of the literature on this subject, he could find only seventeen cases reported.

The ligation of the external carotid artery is a comparatively simple procedure, and I believe that it should be resorted to early in all cases of severe nasal hemorrhage which cannot be checked and kept under control by the methods usually employed. There can be no advantage in delaying the ligation, when there are repeated outbursts of severe hemorrhage even when the nose is securely and efficiently packed. Delay simply means that the patient's condition is worse, when finally ligation has to be resorted to in order to save the patient's life. All of us appreciate the fact that an exsanguinated patient makes a poor surgical risk.

None of the standard textbooks on diseases of the nose and throat seem to mention this method for controlling nasal hemorrhage, and

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I think that this fact should be impressed upon the profession, in order that in the future this procedure might be incorporated in all the text and reference books dealing with rhinology.

Some may criticize a ligation only of the external carotid artery to control nasal hemorrhage on the grounds that the blood supply of the nose is derived both from the internal and external carotids. It is true that the blood supply of the superior portion of the nose is derived from the anterior and posterior ethmoidal branches of the ophthalmic artery which is a branch of the internal carotid. But the major portion of the blood supply of the nose is derived from the internal maxillary, facial, ascending pharyngeal, and palatine arteries, all of which are branches of the external carotid. The cases on record bear out the fact that ligation of the external carotid alone will control nasal hemorrhage.

I wish to report the following case of my own:

On May 28, 1929, F. C. P., a blacksmith, forty-seven years of age, was referred to me by Dr. L. M. Allen, of Winchester, Va., with the following history:

On May 25th, while engaged in a fist fight, he was struck by his opponent with a brass knuckle above the right eye and on his nose. There was a moderate amount of hemorrhage at the time of the injury which was readily checked by pressure applied to the nose by the patient himself. The following day there were several slight hemorrhages. Two days later the patient returned to his occupation. Two hours after this, while shoeing a horse, there was a sudden gush of blood from the right nostril and from the mouth. The patient immediately stopped work, went home, and kept perfectly quiet. The hemorrhage ceased after a short while. There was no more bleeding of any moment until that evening. At this time there was another sudden and profuse hemorrhage which was beyond the control of the patient or members of his family. Dr. L. M. Allen was called and succeeded in checking the hemorrhage by packing both nostrils tightly with cotton soaked in a solution of 1:1000 adrenalin. The next morning at 9:30 there was another alarming hemorrhage, although the nose was still packed. At this time the patient was brought to my office.

Examination showed the man to be slightly pale, very nervous and anxious, but with a

pulse rate of only 80. There was a contusion surrounding the right eye, and a slight abrasion on the right side of the nose. There was no fracture of the nose. A small amount of blood was dropping from the right nostril, and also trickling down the pharynx. When the cotton packs were removed, there was a sudden hemorrhage from both the nose and the mouth. The bleeding was so profuse that it was impossible to locate the actual bleeding point, although it was determined that it was somewhere in the right nostril. A Stevenson nasal tampon was inserted into the right nostril, and the bleeding was finally controlled. The patient was sent to his home and put to bed. An hour later I was notified by telephone that there had been another sudden and profuse hemorrhage while the patient was at rest in bed. I then had the patient admitted to The Winchester Memorial Hospital. That afternoon the patient had two severe hemorrhages although the nose was still securely packed. Morphine sulphate gr. $\frac{1}{4}$ was given, and ice packs applied to the nose. The hemorrhage was finally checked by these means, after considerable loss of blood. An effort was then made to obtain blood from some member of the patient's family for a transfusion, but in this I was not successful. The following day, May 29th, there was no hemorrhage. The patient's general condition was good, the pulse remained around 70, but he was somewhat weakened and pale from loss of blood. A roentgenogram of the skull showed no fracture. The next morning, May 30th, at 9:00 A. M., while the patient was perfectly quiet in bed, there was a profuse hemorrhage. The post-nasal space was packed by Bellocq's method, and Stevenson's splints inserted into both nostrils. In spite of all this packing, it was quite a while before the hemorrhage was controlled. There was no further bleeding until the next morning at 10:00 o'clock, when, although the nose was packed both anteriorly and posteriorly, there was another severe hemorrhage. Realizing that packing could not control the situation, and still having been unable to secure blood for a transfusion, it was decided to ligate the external carotid artery. Under general anesthesia this was immediately done. The usual incision was made, the external carotid readily located and ligated, well above the bifurcation of the common carotid, with No. 2 chromic catgut. All

packs were then removed from the nose, and there was no evidence of hemorrhage. The wound was then closed. The patient's condition was not good following the operation. He was given 1,500 c.c. of salt solution under the breast, and digifolen and camphor hypodermically. The patient responded readily to these supportive measures, and twenty-four hours later all stimulants were discontinued. Thirteen hours after operation there was a very slight oozing of blood from the right nostril. This was readily checked with one application of Monsel's solution. This was the last time that there was any bleeding.

The wound in the neck healed nicely in spite of a small stitch abscess which developed, and, on June 17th, eighteen days after operation, the patient was discharged from the hospital. Except for his secondary anemia, and weakness, his condition was good.

Six months after operation, the patient is following his occupation as a blacksmith, has had no further epistaxis, and apparently is none the worse for his rather trying experience.

SUMMARY

1. Cases of epistaxis which defy ordinary methods of control do occur.

2. Ligation of the external carotid artery will control this type of epistaxis, and is a comparatively simple and safe procedure.

3. Cases where carotid ligation is indicated should be done early before the patient is practically exsanguinated.

4. Standard text and reference books should include this method of controlling epistaxis.

5. A case of severe epistaxis of traumatic origin is reported. This case was readily controlled by ligation of the external carotid artery, after all other treatment had failed, and the patient made an uneventful recovery.

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CEREBRAL THROMBOSIS.*

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The term "*Cerebral Thrombosis*," includes in its broad meaning, a thrombus or clot in a cerebral blood vessel and the concomitant infarction. The resulting cerebral oedema and softening of the brain substance are the direct results of the thrombus and are essential parts of the process and are constantly found in all cases of *Thrombosis*. Many people of this day are excellent candidates for *Brain Catastrophes*.

The normal functioning of the brain is dependent upon the circulation of sufficient or ample blood to all of its parts.

The blood pressure within the brain substance, at all times, must be maintained within certain definite limits. Exaggerations of pressure in either direction give rise to abnormal functioning of the brain. The blood supplied to the brain must be ample in quantity and of sufficient quality. The interchange of the blood within the brain cells must go on and must not, even for a short period of time, be interrupted. Any alteration in the flow of the blood stream or in the blood composition will bring about changed or abnormal cerebral functioning.

The presence of any degree of change of the blood vessel calibre, or lumen of the vessels of the brain, is attended by manifestations of such change. The manifestation of such change may be very slight or very gross. Both the slight and gross changes may be overlooked or wrongfully interpreted. The slighter changes or the mild cerebral disorders are overlooked on account of insufficient study, and are frequently classed as unimportant. The gross changes and the gross manifestations are often confused on account of the sudden, profound and abrupt gravity of the condition, and therefore are classed as the first evidences of the process. In such cases the fact is that the slighter evidences—most important evidences—have been entirely overlooked. Our attention has not been attracted to the case sufficiently to allow us to interpret the earlier manifestation of the process; e. g., psychic equivalent or Jacksonian epilepsy are often not discovered early, and may be entirely overlooked.

The skull is essentially closed, and there-

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fore an unyielding bony cavity. The arterial blood supply to the contents of the skull is large. The return flow of venous blood is free and is not hindered by any valves in the veins. In the usual or upright position of man, gravity largely assists in the rapid return of the venous blood. The absence of valves in the veins, and the upright position of man are not accidental provisions. The normal processes depend upon freedom from back pressure in the veins. For example, rapid occurrence of cerebral disorders occurs whenever the venous return is obstructed. The presence of a failing heart muscle is constantly attended by cerebral manifestation, varying from very transitory symptoms or delirium to complete unconsciousness, as is seen in the syndrome of heart block.

The maintainance of a proper, normal blood pressure in the brain substance, therefore, is of vital importance in the health and life of the human being. That the cerebral circulation of blood depends upon important physical agencies wisely wrought is self-evident. And that normal cerebral function is likewise dependent upon the composite physical arrangements found in the human being cannot be controverted. It is not possible to understand and accurately diagnose certain cerebral disorders without a working knowledge of the anatomy and physiology of the intracranial circulation. A brief review, therefore, of the anatomical arrangements of the blood vessels, and a discussion of some of the peculiarities of the intracranial circulation will aid in the consideration of the important and increasingly frequent condition of *Cerebral Thrombosis*.

The arterial supply of the brain is through the right and left internal carotid arteries and the right and left vertebral arteries. The arterial and venous blood supply to the encephalon, for a better understanding, may be divided into (1) the meningeal vessels and their branches, (2) the superficial or cortical cerebral vessels and their branches, and (3) the central or deep branches.

As the names imply, the meningeal are distributed to the coverings of the brain. The superficial or cortical branches are distributed to the cortex or brain surface. The central or deep branches are distributed to the depths of the brain substance. The choroid artery and the ophthalmic artery, two important branches

of the internal carotid artery are given off very soon after it enters the skull, and before it enters into the formation of the circle of Willis. The vertebral arteries, right and left, give off several important branches just after entering the skull and before they unite to form the basilar artery.

The circle of Willis is formed by the right and left carotid arteries and the basilar artery. From the circle of Willis spring many important collateral branches destined to provide blood, at all times, to the cortical areas of the brain, the deep substance of the brain and the brain ganglia. The basilar artery and its branches supply the medulla, pons, cerebellum and the upper part of the spinal cord. The basilar artery and its branches are of great importance and have much of interest in connection with the study of our subject. From the circle of Willis, however, the principal arterial branches arise which supply the deep parts of the brain, the brain ganglia, and the cortical areas of the brain.

It is not intended to describe the vessels in any great detail or at length. I shall use the middle cerebral artery as a typical cerebral artery. Some of the peculiarities of the cerebral blood vessels, typically shown in this important vessel and illustrating the general arrangement of the cerebral arterial system may be noted.

We first observe that this vessel gives off, immediately after its formation, numerous small branches which enter into the central cerebral substance, and penetrate to the deeper portions of the brain and to the brain ganglia. In addition, this vessel gives rise to numerous cortical branches which supply certain definite areas of the brain cortex. It is well to have in mind a clear understanding of the two branches, thalamic and lenticulostriate arteries—the two branches most often affected by spontaneous cerebral hemorrhage. The striate artery is known as the artery of hemorrhage and supplies the internal capsule.

Numerous small arterial twigs are given off from the cortical branches, and small branches are given off from the pia mater, which penetrate the gray matter to enter and be distributed to the white matter, and deep into the brain substance. The central branches given off from the middle cerebral artery enter through the perforated space the base of the

brain to be distributed to the depth of the brain substance and ganglia of the brain. Branches pass on up through the white matter towards the cortex and do not, in any case, escape to the surface or cortex.

It is of great importance to know that all of the arterial branches just described are terminal. By terminal vessels we understand that the vessel does not communicate or anastomose with any other vessel. No communication is found between the central branches which lie deep in the brain substance, that is, in the white matter, and the branches rising from the cortical arteries or the branches which penetrate from the cortex, the gray matter, and enter the white matter. Although these branches may lie close together, yet no communication is seen.

While intercommunication is seen at times between some of the cortical branches, yet such communication, according to Dr. John B. Deaver, is insufficient to provide nutrition to that part of the brain substance. The lymphatics enter the sub-arachnoid space. Therefore, blocking of any of the cerebral arterial vessels outside of or apart from the circle of Willis acts to deprive that area of the brain so affected of its blood supply. You can well understand that all of the arterial vessels and their branches outside of the circle of Willis are terminal and blocking of a terminal cerebral vessel will cause, in every case, the area in question to undergo softening. There can be no escape from this conclusion. Cerebral softening is a direct result of *Cerebral Thrombosis*. The area affected by a thrombus may be very small or very large. Our diagnostic ability may not make us aware of a small thrombus. Should the area affected be small, absorption of the softened part may occur, and healing take place by formation of scar tissue. We are not prepared to say that regeneration of brain tissue occurs. A cyst may form. The softened area may be walled off by delicate connective tissue, and liquefaction of the softened area takes place. Should the softened area become infected by the entrance of bacteria, an abscess will form.

A study of the venous circulation of the brain is most important in the consideration of our subject.

Sixteen sinuses in all convey the venous blood from the brain to the jugular foramen where it is taken up by the internal jugular

vein. The veins and sinuses may, for convenience of study, be divided into the superficial and the deep groups. The veins from the meninges, pia, the brain surface, and brain substance, and from the deep portions of the orbit, the nasal fossae, the pterygo-maxillary fossae, the diploe and mastoid veins, enter the sinuses. All the veins enter the sinuses obliquely, and in the direction opposite to the flow of the blood in the sinus.

The cortical and deep cerebral veins conduct the blood in practically the same direction as the flow in the companion cerebral artery. This is explained by, and is on account of, the position of the superior and inferior sinuses. No intercommunication is found between the deep and the superficial cerebral veins. The pia mater is a delicate vascular membrane composed of small arterial and venous vessels passing to and into the cortical substance of the brain.

The superior longitudinal sinus commences at the crista galli, runs backward to about the mid-line, receiving as it passes along first the veins from the nares, then numerous veins from the brain cortex, and joins the right lateral sinus.

The inferior longitudinal sinus, smaller than the superior, receives the veins of Galen, passes backwards and enters the straight sinus, and thence on through to the right lateral sinus. The blood from the thalamic and striate arteries is returned through the veins of Galen. The veins of Galen receive the blood from the deep portions of the brain and brain ganglia and empty into the inferior longitudinal sinus.

The right and left occipital sinuses empty into the right and left lateral sinuses respectively. The right and left lateral sinuses, after receiving the occipital, the superior longitudinal and the straight sinus, pass forward and join the right and left superior petrosal sinuses. The lateral sinuses then turn downwards, receive blood from the mastoid and diploe and join with the inferior petrosal sinuses. The ophthalmic vein and the sinus alva parva form the cavernous sinus. The cavernous sinuses now divide into the superior and inferior petrosal sinuses. Through the transverse sinus, lying on the basilar process of the occipital bone, side communication is established between the inferior petrosal sinuses.

The superior petrosal sinus empties into the lateral sinus. The inferior petrosal sinus joins the lateral sinus to form the internal jugular vein near the foramen lacerum. The veins of the scalp, the mastoid veins, and the diploic veins, the meningeal veins, the nasal veins, the orbital veins, and the veins from the eye all enter the intracranial sinuses. The veins of the scalp and diploe intercommunicate at several places.

No provision is made for blocking of the superior and inferior longitudinal sinuses. No provision is made for blocking of the straight sinus. And what is of great importance, no provision is made for blocking of the veins of the brain and this is especially true of the veins of Galen.

In the superior anterior, superior middle, posterior and inferior posterior areas of the brain no provision is found for collateral venous circulation. Provision is made for collateral circulation in case of blocking of any one of the sinuses at the base of the brain.

The process of *Cerebral Thrombosis* may be very acute or very chronic in its manifestations. Apparently, it may develop very suddenly. The usual progress in development is gradual. The evidences may be well marked and clear cut in case of involvement of a large sinus. Septic manifestation may mask the evidences of the thrombosis. In case a small arterial twig is involved, the recognition of the condition is exceedingly difficult or impossible. The attending cerebral oedema and extending cerebral softening, constant concomitants, act to change the clinical picture from day to day. A cursory examination or study will fail to yield a clear understanding of the case. A comprehensive view and close observation is demanded in order properly to understand the condition. Clinical and pathological evidence fully bear out this conclusion.

I am of the opinion that an explanation will be found for many obscure mental conditions, changed and abnormal behaviors, altered personalities, arrest and perverted mental development, epilepsy, early senility and many otherwise unexplained sudden deaths by a thrombosis of an intracranial blood vessel. This may be the explanation of the deaths of newly born children, taking place at or near the time of birth and characterized by respiratory dysfunctioning, as in a case recently seen of a very young child left for a few moments

alone by its mother and found dead on her return. A second case also illustrates the point. A young and apparently healthy student, after a mild attack of influenza, was seized by a severe convulsion, followed by profound coma, continued high temperature, without paralysis, marked respiratory dysfunctioning and death. Complete autopsy, tissue examination and guinea pig inoculation failed to reveal any causative specific disease. It was thought that arterial thrombosis of a small vessel near the respiratory center was the cause.

The pathology of *Cerebral Thrombosis* is mainly that of the causative disease. In an arteriosclerosis the characteristic changes in the blood vessel wall are found. The thrombus is not different from a thrombus occurring elsewhere, though often it is quite soft. The softening of the infract and oedema of the surrounding area of brain tissue is characteristic. A thrombus may form as a direct result of a diseased condition of the blood vessel wall. In this case a diseased condition of the inner coat of the vessel, the intima, is found. In that case the characteristic appearances of an endarteritis, which may be localized, are seen. It is very important to have this fact clearly in mind.

First and foremost, among the causes of *Cerebral Thrombosis* is anything which causes actual changes in the blood vessel walls, as: Endarteritis, endophlebitis, syphilis, infections, tumors, new growths, malignant growths, arteriosclerosis, boils, pimples, erysipelas of the face or scalp, carbuncles of the face, scalp, neck, and extension of inflammation and infection from adjacent parts, as in an otitis media, mastoiditis, orbital or nasal infections, sinusitis. A sympathetic ophthalmia may be explained by infection passing along the ophthalmic veins; extension from one vessel to another; injuries directly to the blood vessel wall; and the presence of foreign bodies.

In the beginning of an arteriosclerosis, the media is the site of the blood vessel wall changes. Extension of the changes to the intima or the endothelial lining of the vessel soon takes place and narrowing of the vessel lumen, and, at times, complete blocking of the vessel ensues. A thrombus formation is to be expected whenever there is an endarteritis. Any damage or disease of the endothelial layer of a blood vessel allows the blood platelets first, then the leucocytes, and then the blood

fibrin, to deposit at the site of the blood vessel wall changes and the vessel is either partially or completely blocked. Fragmentation of the thrombus may occur. Metastatic or septic symptoms may entirely mask the characteristic symptoms. In a large blood vessel the clot is usually laminated. Whenever it forms gradually, layer after layer is deposited. In a small vessel the clot forms quickly and without any laminations. The gradual formation of the clot explains some of the distinctive phenomena and symptoms of *Cerebral Thrombosis*.

In the discussion of the symptoms and signs of *Cerebral Thrombosis*, I shall refer to some case histories. This plan I believe will be more helpful than simply the enumeration of symptoms. The premonitory symptoms are numbness, tingling, disturbed sensation, amnesia and transient aphasia, though numbness, tingling, disturbed sensations are not characteristic.

Amnesia. C. H. P. left his home and place and wandered some miles away and when found was unaware of his whereabouts and identity. Careful examination disclosed that he was a syphilitic. Shortly afterwards he developed evidences of marked affection of memory, speech mechanism, emotions, and gradually failed in all his mental powers, became comatosed and died. The old description of cerebral softening best described the case.

Disturbances of speech mechanism. An old minister, a fluent, rapid, and clear speaker, developed recurring transient aphasia lasting about one day. The speech would return almost as suddenly as it was affected. Marked arteriosclerosis exists in this case.

Intermittent claudication is seen as a premonitory sign at times. Case of W. H. P., white, married, male, age sixty-six. Any walking would cause pain in the lower limbs. About three years later cerebral signs developed and progressed till mental and physical condition became helpless and death resulted in six weeks.

Mental gaps, forgetfulness, disorientation as to time and place, of short duration, visual disturbances are quite often observed as premonitory evidences. Transitory headaches, flashes before the eyes, temporary blindness and auditory noises may be associated with the foregoing symptoms. Premonitory symptoms always occur and may be overlooked or the history not obtained and yet the actual attack

may be delayed for years. Mr. X., white, married, male, sixty-six year old, oral sepsis marked. Refused to have condition corrected. Developed loss of speech, memory failed rather rapidly and mental functioning changed to complete loss of all understanding and death. My impression is that of thrombosis of right middle cerebral artery.

The onset may be attended by *violent pain and headache* as in case of M. S. P. C., white, female, married, sixty-one years old. She was conscious, able to speak, could use all of members of body well, vomited and developed stiff neck, uncertain jerky movements. Note that the onset was at one P. M. and at six P. M. the speech became more and more affected, and a slow respiratory rate developed. The respiratory rate was seven per minute and remained about seven throughout the course of the disease. The pupils were about the size of a pin head and some oedema of the right optic nerve head was observed. The vision, speech and mentality were markedly affected. No paralysis of any muscle or groups of muscles was noted at any time, but progressive extension of the thrombus took place, and death followed three months later.

Mr. H., white, married, male, seventy-three years old, for a number of years had been a victim of advanced atheroma of all the vessels. He would wander away from his home and get lost. Gradual and increasing weakness of the entire right side of the body developed and later right hemiplegia with increasing speech difficulty, and complete aphasia. The gradual development of the symptoms and signs in this case precluded the diagnosis of a brain hemorrhage. My impression is one of gradual occlusion of the cerebral blood vessel.

C. H., white, single, male, forty-three years old, son of Mr. H., case just cited, was a victim of a high grade arteriosclerosis and showed evidences of the most marked oral sepsis the writer has ever seen. While attending to his father, the son complained of numbness and tingling of the right arm, followed by a slowly extending paralysis of the right upper extremity, then a slowly progressing paralysis of the right lower extremity, followed by speech disturbances which increased gradually to complete loss of speech. His memory and understanding were not affected. At no time was there any disturbance of or loss of con-

sciousness. To my mind this is one of the clearest cases of *Cerebral Thrombosis* I have ever seen.

Mr. O., white, married, male, forty-seven years old. After supper he observed tingling of the upper and lower extremities, and of the right side of the body. About one-half hour later was observed to be unable to move the arm and leg, and after about another half hour marked involvement of the speech was observed. He was not shocked and did not lose consciousness. Later on in the progress of the case, marked mental changes took place, confusion, delirium, and disorientation of time, place, memory of names, places, and people was noted. For example, he could look out of his room window and see plainly the house of his nearest neighbor and brother-in-law and yet he did not know the names of the people living there. Improvement commenced at the end of six weeks and continued for about one year. Today his mental and physical condition is normal to all appearances. It would take an excellent observation to detect any remaining affection of the mental or physical functions. My diagnosis in this case was a localized endarteritis. Later this opinion was confirmed by an eminent neurologist.

H. Y. E., white, male, widowed, eighty-two years old, was a victim of advanced arterial changes. A slowly progressing partial left side paralysis developed without loss of speech, consciousness or of sensation. This would seem to indicate a gradual arterial blocking, rather than an arterial rupture.

J. W., white, married, male, age sixty-six years, had marked dizziness followed by a progressive and extending paralysis, without loss of consciousness and without speech involvement. Death followed later. It is my impression that a thrombus, rather than a rupture of the vessel, occurred.

J. A. C., white, male, married, age sixty-six years, was a victim of advanced arteriosclerosis, and advanced Bright's disease. Numerous retinal hemorrhages, exceedingly high blood pressure, low kidney functioning occurred. While at evening meal he lost the use of his right arm, later the right leg, and some hours later marked involvement of the speech, without loss of consciousness or sensation, appeared, gradual increasing severity of the phenomena followed during the following twenty-four hours and death took place on the third day

following the onset. My impression is that extending clot rather than hemorrhage took place.

Jos. B. W., white, male, married, seventy-nine years old. This case complained several days of weakness, nausea, insomnia, nervousness, which was followed by marked mental confusion, delirium, excitement, incoherence and maniacal outbursts, changed behavior, loss of memory for things and people. Then rather rapid physical and especially mental deterioration developed without any paralysis. Death shortly thereafter indicated *Cerebral Thrombosis*.

H. W. H., white, female, married, age sixty-seven. In early life this case had a spinal paralysis of the paraplegic type. While taking tray to ill husband and, without warning, the tray was dropped and the patient fell in a heap on the floor. I reached the case a very few minutes later. There was no evidence of paralysis, yet there was a marked loss of the acuity of the mental faculties. Vision perception was very poor, and the blood pressure was 220. Improvement took place, but the mental functions of the patient did not clear up fully. An inability to read and write correctly was noted. These mental symptoms persisted with marked mental depression, and later a distrust for friends developed. My impression is thrombosis.

R. O. M. L., white, married, male, thirty-four years old, with an alcoholic history, was seized suddenly by a convulsion which lasted some forty-five minutes. When seen he was conscious and rational and no localizing sign no symptom was present. He was urged to enter the hospital for care and examination, but declined, saying, "I am not sick enough for that." The next morning, or about nine hours after the convulsion, unconsciousness was noted and from that time till death at four o'clock in the afternoon the progress of the case was steadily downwards. A spinal puncture was made, the fluid was under pressure and bloody. Routine examination disclosed the absence of pulmonary, heart and kidney diseases. The temperature rose rapidly and the respiratory rate became steadily less and less and, toward the end, long pauses of respiration were observed. A post-mortem done four hours after death showed a branch of the basilar artery ruptured. The spinal fluid Wassermann, the blood Wassermann, and patho-

logical examination of the liver, pylorus, brain and blood vessels all revealed unmistakably syphilis. This case is cited to illustrate that involvement of the basilar artery is not attended by paralysis.

Quite a number of the insane show aphasia. It is necessary to have a physical basis for aphasia. My study of this important condition leads me to believe that a thrombus is the actual cause.

J. H. B., white, male, widowed, seventy-seven years old, a victim of high blood pressure and arteriosclerosis, for a number of years had had cerebral dysfunctioning. A well marked aphasia, with a hemianopsia developed. The aphasia cleared up, the visual disturbance improved somewhat. Yet, today, eight years after the attack, the vision at the outer side of the visual field is still reduced. Thrombosis seems to be the rational explanation of this case.

A clear distinction must be made in the rapidly developing, acute case with a large, soft clot, due to some acute infection, and the case in which the process is gradual. The progressive changes indicate that the blood vessel changes are the result of an advancing arteriosclerosis with a coexisting endarteritis.

In support of the views herein outlined, numerous cases may occur to you from your own experience.

Diagnosis. Premonitory symptoms occur as a rule. The usual premonitory symptoms are connected with sensation or with the mental processes. The symptoms and signs of the causative disease should be observed. The onset is gradual. The progress of the symptoms is gradual and may extend over some considerable time. Likewise, the signs develop gradually and, as a rule, some considerable time elapses before the evidences disclosed by the signs are sufficient to warrant an accurate diagnosis.

The history of later extension to and involvement of other functions, the constant tendency to mental changes, such as confusion, delirium, disorientation, gradual development of speech disorders, and mental and physical decay progressing steadily, from day to day, indicate *Cerebral Thrombosis*. The progressive mental and physical decay will prove the case later on in its course, if the diagnosis was not previously made. The temperature

and pulse lines are often unaffected. Recall some striking example of hemiplegia in early life without mental decay or deterioration, and then recall a case of cerebral affection without hemiplegia or paralysis attended by a steady physical and mental decay. Pasteur is an example of the first condition and an example of the second condition was witnessed some few years ago in the case of one of our most gifted public citizens.

The explanation is that in cerebral hemorrhage the vessel involved is a small terminal vessel and one which supplies a very definite area of the brain. The effects of the hemorrhage remain, and the area of brain tissue involved is small, though structurally important. The adjacent part of the brain does not suffer for the reason that it is supplied with vessels which were not involved in the cerebral hemorrhage. The lenticulostriate and lenticulo-thalamic arteries are involved in more than 60 per cent of all cases of spontaneous cerebral hemorrhage. The area of the brain supplied by these small vessels is very small and is not directly connected with the blood supply of the parts of the brain which control the mental faculties.

Thrombosis affecting a vessel trunk or a large or principal branch gives rise to a disturbance of the functions of a wide area of the brain. The area so affected is greater than in spontaneous hemorrhage. In a thrombosis the process will extend, unless the seat of the clot is confined to a very small arterial twig.

In spontaneous hemorrhage of the brain hemiplegia is the rule, and the arm is affected more severely than the leg in the majority of cases. The onset is sudden, usually after a meal or after straining, or following excitement. Loss of consciousness, which may be brief, is the rule and is due to the rapid increase in the intra-cerebral pressure.

Spontaneous cerebral hemorrhages occur at all ages. They may occur in the first year of life. No age is exempt. The lenticulostriate supplying the internal capsule and the lenticulo-thalamic supplying the optic thalamus are the vessels most often affected. Cerebral hemorrhages may affect either side of the body. The onset in the occurrence of cerebral embolism is abrupt. Sudden shock always occurs quickly, and pallor and nausea are observed. Loss of consciousness is against the rule. The clinical picture is not complete for a variable

length of time. Thrombosis always occurs and adds to the already existing condition.

In cerebral hemorrhage the clinical picture is complete almost at once. A case is cited to illustrate this. The writer, while in conversation with T. D. R., observed difficulty of speech. In a moment the speech was lost, the side fell limp, and unconsciousness immediately developed.

The middle cerebral artery is affected in 75 per cent of the cases of cerebral embolism. The basilar artery is the next most frequently affected.

A prior existing causative disease may as a rule be found by careful examination in thrombosis.

In *Cerebral Thrombosis* the vessels affected (in order of frequency) are: the middle cerebral, the basilar and the anterior cerebral. Any cerebral vessel may be involved in a thrombosis. However, experience teaches that the lenticulostriate, lenticulo-optic and lenticulo-thalamic arteries are seldom involved in a thrombosis.

The veins involved in a *Cerebral Thrombosis* are many, although the most commonly affected are the veins of Galen. The sinuses most commonly involved in the thrombosis (in order of frequency) are: The lateral, cavernous and longitudinal. The reason for this is that these sinuses are more often exposed to trauma and infections.

Cerebral softening due to arterial thrombosis occurs most often in the corpora striata and optic thalamus; next in frequency in the pons and medulla. The pons and cerebellum are practically never affected by an embolus. The cerebellum is rarely affected in thrombosis.

The localizing signs depend, in all cases, upon the vessel involved. Mental changes, somnolence, loss of speech, dullness, apathy and absence of motor and sensory involvement indicate venous thrombosis of the deep cerebral veins or the veins of Galen.

In hemorrhage and thrombosis the blood pressure is as a rule high. In embolism the blood pressure is usually low. *Cerebral thrombosis* occurs rather frequently in the puerperal state, and in exhaustive hemorrhages, especially the hemorrhage of ectopic pregnancy.

Thrombosis of the sinuses occurs in the young from seventeen to twenty-six years of age. The septic symptoms of the coexisting

and causative disease may mask the picture. The constructive diagnosis may be made in this condition by careful consideration of the causative condition,—for example, a mastoiditis showing cerebral symptoms and a flat jugular vein.

Many people are excellent candidates for *Cerebral Thrombosis*. The condition more often develops while the victim is asleep or is quietly going about the affairs of life.

It is much more common to have two or more recurrences in thrombosis than in cerebral embolism or hemorrhage. The explanation is simply that the thrombosing extends to another branch or twig of the affected vessel.

In arterial cerebral thrombosis, coma is more frequently absent. Thrombosis occurs usually in advanced life. Bulbar symptoms are much more common than in embolism or in a hemorrhage, on account of the fact that the basilar artery is frequently affected. The fully developed evidence shows that a wide area of the brain is involved. An area of the brain affected in a cerebral hemorrhage as wide as is affected in case of thrombosis would cause instant coma and death. The large size and wide distribution of the vessel that should be ruptured in order to produce so extensive an area of brain involvement is the explanation of this observation.

It is more important then to know the anatomical arrangement of the cerebral vessels in order to be able to interpret the signs and symptoms of the disturbed function of the several parts of the brain. It is commonly taught that some focal sign must exist before making a diagnosis of a brain disease. Often the symptoms and signs are not clear and the diagnosis is not written in plain bold type. A correct diagnosis may be exceedingly difficult, and at times altogether impossible.

Some essential factors may now be briefly mentioned in order that a correct understanding of the subject may be had.

A diseased or weakened media of the blood vessel wall is the essential or determining factor in a spontaneous cerebral hemorrhage. A damaged intima, that is a damage to the endothelial lining, is the essential or determining factor in a *Cerebral Thrombosis*. A diseased media is the cause of a hemorrhage. A diseased intima is the cause of a thrombosis. In the beginning of the process, the site of the

change in the blood vessel wall is the determining factor.

Embolism is not dependent upon any local change in the blood vessel wall, as is always the case in spontaneous cerebral hemorrhage and thrombosis. Embolism is dependent upon fragmentation from other sources. Softening occurs in all cases of thrombosis, and any infection of the clot adds greatly to the gravity of the condition.

Epilepsy arising after twenty years of age has been classed always as syphilitic. This is true. It is equally true that syphilis is a potent and frequent cause of blood vessel changes. Here perhaps may be found an explanation of epilepsy, that is, blood vessel wall changes giving rise to thrombosing of minute arterial twigs. I would suggest as a problem for the investigator the study of *Cerebral Thrombosis* of the smaller vessels as a cause of epilepsy and of sudden deaths.

In all cases where evidence exists leading one to consider some brain involvement, of whatever nature, the fundamental and imperative need is to determine the cause.

Alcohol, drugs, and trauma must be excluded before making a final diagnosis. Uraemia and diabetes must be eliminated by examination of the urine and blood estimation in every case. A complete physical examination including all laboratory findings is required to disclose the presence or absence of other diseases—particularly any of the causative conditions.

SUMMARY

In acute spontaneous cerebral hemorrhage, the clinical picture is developed in a few moments. In cerebral embolism the onset is always sudden without any premonitory warnings. Shock is seen, and gradual and progressive manifestation of the process occurs. In thrombosis, premonitory symptoms are always present; the onset is not abrupt and the progress of the case shows gradual, increasing mental and physical impairment.

PROGNOSIS

The particular cerebral blood vessels affected in the process must be constantly borne in mind. It is often a sad duty to give an unfavorable outlook and to predict rapid and certain physical and mental decay. A medical man who ventures opinions without careful study and consideration of the case will invariably be mortified and embarrassed. Gen-

erally speaking, in cases of *Cerebral Thrombosis* the outlook, not only as to life but also as to physical and mental usefulness, is most unfavorable.

Should a thrombus form as a result of an endarteritis, or inflammation confined to the intima, then it is possible and probable that correct treatment will effect a gradual absorption of the clot and restoration. Should the thrombus form as a result of a gradual occlusion of the vessel, as occurs in arteriosclerosis, no improvement will take place. Syphilitic invasion of the blood vessel wall in some cases may be improved by vigorous treatment.

TREATMENT

(1) Largely preventive. That is, save the patient from thrombosis by preventing or removing the cause.

(2) In those known to be candidates for this malady, diet, proper rest, sleep, gentle exercise, attention to all the body functions, and the use of alkalies and iodides is all one can do.

(3) In the treatment of cases after thrombosis has taken place, add to the foregoing supportive measures directed especially to the circulation.

(4) Operative interference is only possible in sinus involvement and then in a most limited way. I have dealt with sinus conditions affecting the superior longitudinal sinus in two cases, and in the lateral sinus in three cases only. In two cases of brain abscess containing about 20 c.c. of pus in each case—satisfactory outcome was obtained. In the first case the abscess resulted from a lateral sinus involvement and in the second case from a gunshot wound involvement of the superior longitudinal sinus. At this writing, it is not thought that surgery can afford any relief in embolism and in thrombosis affecting the arterial vessels of the brain. The one great thing in all these cases is prevention. How may it be brought about? The answer is to prevent or arrest the causative disease.

When a bit of sunshine hits ye,
 After passing of a cloud,
 When a fit of laughter gits ye
 And y'er spine is feeling proud,
 Don't forget to up and fling it,
 At a soul that's feeling blue,
 For the minit that ye sling it,
 It's a boomerang to you.

—Selected.

INJURIES OF THE CARPAL BONES OF THE WRIST—REPORT OF CASE OF DISLOCATION OF THE SEMILUNAR BONE AND FRACTURE OF THE SCAPHOID BONE AND ULNAR STYLOID.*

By RANDOLPH L. ANDERSON, B. S., M. D., Richmond, Va.

The wrist-joint proper is formed by the articulation of the radius with the carpal

magnum and unciform. So there are eight carpal bones.

Todd says the carpal bones must function as buffers to distribute and dissipate the effects of the forces transmitted upward from the hand to the forearm. The number and size of these bones and the multiple joints involved probably save these bones from more frequent injury.



Fig. 1. A and B—Pre-operative lateral and antero-posterior views of the wrist.

scaphoid, semilunar and cuneiform bones. The remaining bone of the proximal row of the carpal bones is the pisiform, a sesamoid bone. The distal row is made up, beginning with the radial side, of the trapezium, trapezoid, os

There have been eight cases of carpal bone injury at the Memorial and St. Philip Hospitals in the past three years. Speed reports the occurrence of one fracture of the scaphoid for every eight fractures of the radius. Bizarro reports one hundred and twenty-three carpal

*Presented before the Richmond Academy of Medicine.

injuries in which fracture of the scaphoid was most frequent and dislocation of the semilunar was next. The combination of the two injuries is not common, but is not rare.

Most of the carpal injuries result from falls on the out-stretched hand. In such cases, in order of frequency comes first, fracture of the radius; second, fracture of the scaphoid bone; and, third, dislocation of the semilunar bone.

An absolute diagnosis is almost impossible without an X-ray. With further use of the X-ray, many so-called sprains of the wrist have been found to be fractures or dislocations. In questionable cases, both wrists should be rayed. At least, two views should be obtained. It is necessary to distinguish between fractures and developmental changes, such as bipartite scaphoid, described by Faulkner and others.

I shall not dwell on the treatment of carpal injuries other than to say that any treatment should be prompt, be it closed reduction, open operation or excision of the bones. Early treatment is attended usually with good results. Unrecognized cases give 25 to 75 per cent of disability, with considerable pain as a permanent feature in untreated cases.

Our patient, E. M., a male student of nineteen years, had previously sustained a contusion of the left thigh which necessitated crutches. While coming down stairs he fell forward about fifteen feet, landing on his out-stretched hand. The left wrist became very painful and the patient was brought to the office immediately.

He showed considerable swelling of both the dorsal and palmar surfaces of the left wrist, beginning with the lower two inches of the radius and extending downward to the fingers. On the dorsal surface a depression was seen just distal to the lower radius and midway laterally. There was a corresponding bulge anteriorly under the flexor tendons. The hand was held stiffly with the wrist slightly dorsiflexed and the fingers flexed moderately. The bulge described anteriorly beneath the flexor tendons was exquisitely tender. Tenderness was marked on the dorsal surface just below the radial styloid over the scaphoid and pressure over the anatomical snuff-box also elicited expressions of pain. The ulnar styloid was likewise sensitive. All active and passive motions of the wrist joint were limited and painful. Attempts at dor-

siflexion and ulnar flexion were especially restricted. Attempts to flex or extend the fingers were painful.

X-rays were made. Report by Drs. Talley and Whitehead follows: "The semilunar bone is displaced slightly forward though not completely out of the joint cavity. The remainder of the carpal bones as well as those of the hand are displaced backward on the semilunar, the plane of the metacarpus being posterior to the joint. There is a fracture of the scaphoid bone with slight displacement of the fragments. There is a slight fracture of the tip of the styloid process of the ulna."

We thought that an open operation would be preferable to an attempt at a closed reduction, because of the extreme trauma frequently necessary for reduction by closed or manipulative methods. It was thought that the semilunar bone would probably have to be removed. A Walker splint was applied temporarily, and sedatives prescribed making the patient fairly comfortable.

Four days later, December 3, 1929, the patient was operated on at Johnston-Willis Hospital. A two inch incision was made anteriorly just at the inner side of the tendon of the brachio radialis. The radial artery and nerve and superficial flexors were retracted to the ulnar side and the pronator quadratus exposed. The anterior radio carpal ligament was then incised, exposing the proximal row of carpals. The semilunar was felt anteriorly beneath the flexor tendons. An attempt was made to free the ligamentous attachment between the scaphoid and the semilunar. The proximal or ulnar portion of the fractured scaphoid came into view. This was partially rotated and at the time became confused with the semilunar. The error was discovered and this fragment was easily manipulated back into its proper position with the distal fragment of the scaphoid by blunt dissection. In this maneuver, soft ligamentous tissues interposed between the two scaphoid fragments were displaced. Attention was again directed toward the semilunar. To our surprise, the semilunar was no longer displaced anteriorly. The wrist was turned over and while pressure was kept on the semilunar anteriorly, the wrist was sharply flexed and reduction of the distal row of the carpals on the semilunar was completed. The wound was sutured in layers and dressed. A plaster cast was applied from the palm to

the elbow with the thumb held in abduction by the plaster and the wrist slightly flexed.

Post-operative X-ray report by Drs. Talley and Whitehead follows: "The bones of the wrist appear to be in proper relation to one another as are likewise the fragments of the scaphoid. It may be said that the dislocation previously present appears to have been satisfactorily reduced and the position of the fractured scaphoid now appears better than before."

range of motion of from twenty-five degrees of dorsiflexion to forty degrees flexion. Radial and ulnar deviation is only slightly restricted. Motion of the fingers is entirely free. There is no pain in the wrist.

My only concern at the present time is whether or not the scaphoid will unite properly. I reported this case to emphasize the importance of X-ray examination in all wrist injuries and to bring out the importance of early treatment in these cases.



Fig. 2. A and B—Post-operative lateral and antero-posterior views of the wrist.

Convalescence was uneventful. The original cast was kept in place for four and one-half weeks. At this time, it was removed, baking and massage was begun and the wrist changed from slight flexion to slight extension in a plaster cast. The thumb was freed. Motion of the fingers was encouraged. Gradually, extension of the wrist was increased in the splint which has been kept on for six weeks and is now to be discarded. The wrist has a

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EPIDURAL SACRAL AND PARASACRAL ANESTHESIA IN SURGERY OF THE PERINEUM.*

By JAMES WARREN SAYRE, M. D., Newport News, Va.

This report concerns fifty-four (54) consecutive cases of epidural sacral and parasacral anesthesia in perineal operations at the Jefferson Hospital, Roanoke, Va., from June 1, 1927, to July 1, 1928. The series includes:

14. Suprapubic prostatectomies.
 - 1 Perineal drainage of prostatic abscess.
 - 1 Resection of vesical diverticulum.
 - 1 Resection of vesical diverticulum with left ureteral transplantation.
 - 1 Closure of recto-vesical fistula.
 - 1 Perineorrhaphy.
 - 1 Electrocoagulation of urethral caruncle.
 - 4 Drainages of ischio-rectal abscesses.
- 30 Hemorrhoidectomies of the Whitehead type.

My purpose in this report is to review the anatomical considerations, the technique of injection, and to comment upon the successes and failures, advantages and disadvantages, the reactions, and methods of controlling them.

HISTORY

In 1901 and 1903 Cathelin proposed the use of normal saline injections into the sacral canal for the purpose of allaying certain nervous manifestations connected with the urinary tract. He also experimented on dogs, injecting 3 c.c. of a 1 per cent solution of cocaine into the sacral canal, and obtained anesthesia of the whole body. His attempts to produce anesthesia in man by this method failed, but the direct result of Cathelin's publication in 1903 was the introduction into France of the epidural method of medicating the nerves of the sacral canal in certain chronic conditions, such as sciatica, neuralgia, lumbago, tabes dorsalis, sexual neurosis, and enuresis. It was not, however, until 1910 that material success was reported in this regard by Laewen who was able to perform painlessly the more common operations on the rectum, perineum and female genitalia. He called the method "extradural anesthesia."

TECHNIQUE AND ANATOMICAL CONSIDERATIONS

Thirty minutes before coming to the operating room the patient is given a hypodermic of 1/6 grain of morphine, and, upon arriving there, is placed upon the operating table in

prone position with a cushion under the hips; this elevates the buttocks, partially flexes the thighs, and serves to accentuate the bony landmarks. The cutaneous area over the sacrum and around the buttocks is sterilized with iodine and alcohol, and in this series there were no infections at the local site of injection.

The laminae of the first four sacral vertebrae unite to form the four sacral spinous processes. The laminae of the fifth sacral vertebra do not unite and can be palpated as tuberosities on either side just lateral to the midline. These are known as the sacral cornua. The resulting bony defect is covered by a dense fibrous membrane and is termed the "sacral hiatus." With the index finger of the left hand the tip of the coccyx is palpated in the anal groove. The finger then follows the posterior surface of the coccyx upward until the sacral cornua are felt on either side. Somewhat higher in the median line the finger identifies the fourth sacral spinous process, indicating the apex of the triangle guarding the entrance to the canal. With a hypodermic needle a dermal wheal is raised over the center of this triangle and the subcutaneous tissues are infiltrated so that the passage of the large needle will not cause pain. A spinal puncture needle is then introduced through the skin with the bevel upward and at an angle of about forty degrees with the skin surface. There is a sensation of increased resistance when the needle encounters the sacrococcygeal ligament and when this is perforated the point of the needle impinges upon the bone of the anterior wall of the sacrum. The needle is then withdrawn one to two millimeters and the hilt depressed until it becomes approximately parallel to the sacral canal. It is then advanced gently and slowly about three cms. into the canal. In the event that the patient is so obese that the bony landmarks cannot be palpated the operator is left to master the situation only by his past experience. When, however, the needle is felt to penetrate a dense membrane, pass through a free space, and then encounter bone, these are reliable signs that the canal has been entered. The stylet is then withdrawn, leaving the needle in place, and a syringe is attached for aspiration; if blood or spinal fluid escapes, the needle is withdrawn until the flow ceases. After a few minutes the injection is slowly made, the needle being gradually withdrawn as the piston advances. If the solution is in-

*Read before the Seaboard Medical Association of Virginia and North Carolina, at Newport News, Va., December 3-5, 1929.

jected over the posterior surface of the sacrum, there should be tumefaction or at least back pressure against the advancing piston. The spinal canal was entered and spinal fluid aspirated once in this series. The needle was withdrawn and after a few minutes the routine injection made and no reaction followed. The routine injection into the canal consisted of 25 c.c. of freshly prepared 2 per cent procaine hydrochloride in normal saline containing 5 minims of epinephrin hydrochloride (1:1000).

The crest of the ilium is then palpated and followed posteriorly until the posterior superior spine is located. A dermal wheal is raised about 1.5 cms. inward and about a centimeter downward and this point should lie over the second sacral foramen. Another wheal is raised just below and lateral to the cornua which locates the fifth foramen. The distance between these foramina is divided into three equal parts by two dermal wheals which mark the position of the third and fourth foramina. To 40 c.c. of freshly prepared 1 per cent procaine hydrochloride in normal saline 5 minims of epinephrin hydrochloride (1:1000) are added. Of this solution the greatest amount (6 c.c.) are injected into the second sacral foramen and the quantity of each successive foramen reduced by 1 c.c., that is, 6, 5, 4, and 3 cubic centimeters respectively. The first foramen lies deepest of all and prolonged search is often necessary for its location. Satisfactory anesthesia may be obtained without injecting it and for these reasons it was not attempted in this series.

The anesthetized area includes the anus, perineum, urethra, neck of the bladder, posterior surface of the scrotum, and a variable area on the inner surfaces of the thighs. The injection of the foramina merely augments the effect of the anesthesia of this area. It is time-consuming, uncomfortable and annoying to the patient, requiring nine needle punctures instead of one, and, besides, in the majority of cases is unnecessary.

Perineal prostatectomies have been performed in the Brady Urological Institute, Baltimore, since 1924, under a single extradural injection of 20 c.c. of 3 per cent procaine hydrochloride, and they have reported splendid results from this method. Writing from that clinic in the *Journal of Urology*, March, 1926, Dr. E. Clay Shaw showed by experiments on the cadaver as well as by a careful study

of the clinical cases that a single extradural injection of 20 c.c. of 3 per cent procaine hydrochloride gave the best results and that the incidence of reactions was not as high. The experiments on the cadaver showed that 20 c.c. fill the sacral canal, and any excess to this amount passes upward to the lumbar region of the vertebral canal.

For a concise description and diagrammatic illustrations of the technique of injection, I should refer you to Labat's *Regional Anesthesia*, a publication of Saunders, Philadelphia.

COMMENTS

In the fourteen cases of suprapubic prostatectomy the caudal anesthesia was combined with local anesthesia of the abdominal and anterior bladder walls. In none of these cases was it ever necessary to supplement the caudal by inhalation anesthesia. We were particularly interested in finding the marked degree of relaxation of the prostatic area which permitted the operator, except in the obese, to work comfortably with the prostatic fossa directly in view. This is an asset that I feel would justify the injection even if anesthesia were not obtained. There is far less bleeding under caudal anesthesia and, when it occurs, it can be controlled under direct vision so successfully that the Pilcher bag is often unnecessary. The freedom from bleeding has been explained on the basis of a temporary sympathetic paralysis with subsequent splanchnic vascular dilatation and a fall in blood pressure. The majority of the prostatic cases complained of a drawing, tugging sensation during the actual enucleation of the gland by blunt dissection. This was not complained of in the absence of traction while cutting or suturing.

The two cases in which the vesical diverticula were resected required considerable traction and manipulation of tissues; the case in which resection was accompanied by a left ureteral transplant was time-consuming, requiring approximately two hours, yet the anesthesia appeared as satisfactory at the end as at the beginning of the operation.

The thirty (30) cases of hemorrhoidectomy were of the Whitehead type. This method is especially applicable to the use of the cautery where ethylene, for example, cannot be employed with safety. The comfort with which these operations were performed was greatly

facilitated by freedom from bleeding and marked relaxation of the anal sphincter, the operator in the majority of cases being able to introduce three fingers into the rectum without difficulty,—a relaxation that cannot be safely obtained with any of the inhalation anesthetics. I consider the relaxation of the anal sphincter the most reliable single test for the determination of anesthesia after the extradural injection. When the effect of the procaine began to die out, I believe it required more morphine to keep these patients comfortable than was required for those operated upon under inhalation anesthesia. In like manner, I believe that post-operative catheterization was more often necessary in these cases than in those to whom gas anesthesia was administered. In dealing with an obese, apprehensive, un-cooperative patient of this group, I met with my only complete failure of the series, meaning by this the necessity of a general anesthetic. The explanation of this failure, I am sure, was faulty technique, not being able to enter the canal.

There were no deaths in the series that could in any way be attributed to the anesthesia. Serious reactions did not occur in any of the fifty-four cases and no reactions at all occurred in approximately 50 per cent of that number. In the other 50 per cent the patients felt weak, apprehensive and sometimes nauseated. In a few cases there was pallor, perspiring of the forehead, a retarded response to questions, a slowing of the pulse, and a fall in blood pressure, sometimes as much as 25 mms. Four patients of the series vomited. The explanation of this picture is the paralytic action of the procaine on the sympathetics when it extends beyond the sacral canal. The most delicate reactions are best detected by frequent blood pressure readings. The reactions are controllable by epinephrin hydrochloride, 5 to 10 minims (1:1000), but in this series it was not used after the original injection.

The epidural method is time-consuming, attended by reactions, somewhat difficult in the obese, and, in nervous, apprehensive, un-cooperative patients who prefer inhalation anesthesia, I believe it should not be attempted.

On the other hand, epidural anesthesia has many advantages. During the operation the bleeding is far less and the musculature of the anesthetized area is markedly relaxed, greatly

facilitating the exposure and manipulation of tissues. The incidence of post-operative pneumonia is practically nil. There is little or no shock, and nausea and vomiting, seen so frequently after inhalation anesthesia, are rare. The patients can drink water in abundance immediately after the operation and resume a full diet on the following day.

I must take this opportunity to express my appreciation to Dr. Hugh H. Trout, Roanoke, Va., for the privilege of reporting these cases. In this series, he was the operator; I was only the anesthetist. He has employed the use of extradural anesthesia in similar cases since 1923 and has been favorably impressed with its advantages. Within the past few months he has partially abandoned its use because of the pleasant results obtained with spinal. In the prostatectomy cases it saves the trouble of local infiltration of the abdominal wall, and in the hemorrhoid cases the post-operative pain is less with spinal than with sacral anesthesia.

On the other hand, prior to 1924, Dr. Young abandoned the use of spinal for caudal anesthesia in the Brady Clinic because he felt the spinal was fraught with a certain amount of danger, the region anesthetized seemed so much more extensive than was necessary, and the severe reactions, although infrequent, he considered dangerous and difficult to counteract.

Despite the present revolution in newer methods of anesthesia, I believe caudal anesthesia still holds a place in surgery of the perineum.

CONCLUSIONS

This series is far too small from which to draw general conclusions. However, these observations and the experiences of others lead us to believe that:

1. In the hands of the careful operator the method is safe and effective. The explanation of failure is almost always "errors in technique."

2. It is especially valuable in the aged with hypertension, myocardial disease, renal impairment, or respiratory infections.

3. There is less bleeding and more relaxation than can be safely obtained with inhalation anesthesia.

4. The ability of the patient to drink water freely immediately after operation and resume a full diet on the following day are distinct advantages of this method of anesthesia.

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EUGENIC STERILIZATION.*

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THE LAW

Eugenic sterilization has occasioned much discussion in the past twenty-five years. Indiana was the first State to legalize sterilization of the mentally unfit; the law was adopted March 9, 1907. Since that time about one-half of the States in the Union have passed some type of sterilization law. Virginia was the nineteenth State to take this step, the law being approved March 20, 1924, and is found in Chapter 394, Acts of 1924. The constitutionality of the Virginia Law has been upheld by the United States Supreme Court, through a decision written by Justice Holmes and delivered May 2, 1927. Justice Butler alone failed to concur in this decision and he wrote no report of his reason for dissenting.

As the Virginia Law now stands, any inmate of a State Institution for the insane, feeble-minded or epileptics, who is afflicted with hereditary recurrent insanity, idiocy, imbecility, feeble-mindedness or epilepsy, and who, if sterilized, could be paroled or discharged and become self-supporting, can be sterilized by the operation of vasectomy in the male, and salpingectomy in the female.

The present procedure is as follows: The Superintendent of the institution applies to the Court for the appointment of a suitable person to act as guardian or committee for the patient. The Superintendent then prepares a petition, directed to the Special Board of Directors of the hospital, stating the facts in the case and the grounds for his opinion why the patient should be sterilized. A copy of this petition, together with a notice in writing, designating the time and place of the hearing, not less than thirty days before the presentation of the petition to the Board, is served upon the patient, and if the patient be a minor, having a living parent or parents, whose names and addresses are known to the Superintendent, the petition and notice are likewise served upon them, and a copy of the petition and notice is also served upon the guardian or committee. After the petition and notice have been served as above set forth, the Special Board at the time and place named therein proceeds to hear and consider the petition and the evidence offered in support of,

or against same; having the patient and his guardian present at the hearing. If in the opinion of the Board the operation should be performed, it orders the Superintendent to perform, or have performed by some competent surgeon the operation of vasectomy, if the patient be a male, or salpingectomy, if the patient be a female.

After the Special Board has ordered the sterilization, it is not performed for a least thirty days, so that the patient or his guardian may appeal to the Circuit Court as provided by the Act.

There is no voluntary procedure provided and the compulsory procedure involves much red tape, is cumbersome and takes not less than sixty, and frequently nearer ninety days, before consummation, depending upon the date of the meeting of the Special Board of Directors of the Hospital. A number of patients have come in just for the purpose of being sterilized, and a voluntary clause in the law, allowing prompt action in these cases, would be a great saving in time and money to the State. The medical profession can do much towards having such a clause incorporated in the law.

SELECTION OF CASES

Great care is taken in the selection of cases to be sterilized, as we recognize that the benefits of this procedure have not yet been conclusively proven, and that depriving an individual of all prospects of parenthood is a grave undertaking and should not be done without due and careful deliberation.

We first study the patient for a long enough period to make sure that the mental condition falls within the limitations of the statute. Then providing that the patient's physical condition is good, that she is of the child-bearing age, and is the type of case which if sterilized could be paroled, what is proposed is explained to her. When the patient understands that the ovaries are not removed, the operation concerning itself solely with the tubes, and that there is no loss of sex desire or power, the only result being the prevention of conception, and that she will probably be able to leave the hospital, she is usually not only willing, but anxious to have the operation performed. The type and result of the operation is also explained to the family of the patient, which usually heartily concurs.

The majority of our patients operated on

to date have been girls of the mental defective anti-social group, the so-called moral imbeciles. The youngest patient sterilized was fifteen; the oldest forty; the average age twenty-five and eight-tenths years.

METHODS OF FEMALE STERILIZATION

There are many methods of sterilization to be found described in the literature. The X-ray provides temporary sterilization, but this is uncertain and variable. There is a method of intra-uterine cauterization of the uterine ends of the fallopian tubes and, more recently, the experimental work of Jarcho, whereby injections of guinea pig and sheep spermatozoa into rabbits has produced temporary sterility, is of interest and may be of practical value in the future.

For our purpose, surgical treatment of the tubes seems more satisfactory. There are many methods described, among them: simply crushing and ligating the tubes; severance of the tubes, with implantation of the cut ends in the broad ligament; severance of tubes, burying the distal ends in the broad ligament, and purse stringing and inverting the cornual end; resection of the proximal inch of the tubes, burying the distal end in the broad ligament and wedging the cornua before sewing it over. The method used at the Eastern State Hospital is that of wedging the cornua, ligation of the proximal end of the tubes and suturing them to the fundus with closure of the wedge in the cornua. We use this method because we believe it to be certainly as effective as any of the above enumerated techniques, because it can be done quickly and because it seems to offer an additional support to the uterus, rather than allowing a certain amount of relaxation as do some of the other methods.

Objection has been raised to wedging the cornua on the grounds that it endangers the ovarian blood supply. In our small series, there has not been a single case of post-operative menstrual irregularity. It is our practice to correct any pelvic pathology which may be present, and we routinely remove the appendix. In our series of forty-two sterilizations, thirty-five appendectomies were done, many of which were definitely diseased and symptom-giving.

There have been no post-operative complications of any kind, no infections or draining wounds, although one patient, sterilized incidentally to an operation for acute appendicitis, was so disturbed that it was necessary

to keep her restrained most of the time for three weeks after the operation to prevent her tearing her dressings off and clawing at the incision.

RESULTS

Twenty-six of the patients sterilized have since left the hospital. Our information is that twenty-one of these are getting along well. One of the five who cannot be counted as doing well is a feeble-minded girl, who has been detained in Kentucky for anti-social conduct. The other four have been returned to the hospital because of mental upsets, but will unquestionably go out again in the near future.

Of the sixteen sterilized cases who have not left the hospital, one is just a week post-operative, but will leave soon. Eight of them have not recovered sufficiently from a mental standpoint to be discharged. The remaining seven could leave if there were some responsible person to supervise their conduct on the outside,

IN CONCLUSION

Eugenic sterilization seems a rational and safe method of lowering the percentage of the mentally incompetent in future generations. It offers freedom and economic productiveness to many individuals now under custodial care. While a great stride forward has been taken by the adoption of the present Virginia law, there is still much room for its improvement and the medical profession can render valuable service toward having this law amended.

VENEREAL DISEASE PREVALENCE IN VIRGINIA.*

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and
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Virginia has one hundred counties included in its 440 mile southern length and 200 mile breadth, eighteen of which have been selected as representative of the State in the present survey of venereal diseases. These counties are in five groups, the west, the south and the north central groups having a sparse population, while the eastern groups including the counties in which are located the city of Richmond and the three principal seaports of Virginia are relatively thickly populated. The total population of the State is 2,575,000.

These eighteen counties have 1,198,678 or 47 per cent of the total population.

SCOPE, PURPOSE AND METHOD

The purpose, reliability and method of the surveys have been discussed in detail in the previous papers of this series of prevalence studies. In brief the purpose of the study is to determine the number of cases of gonorrhea and syphilis under treatment or observation in the United States by private practitioners and public clinics, hospitals or other institutions engaged in the treatment of venereal disease as of a selected date. Among the factors affecting the completeness and accuracy of the data are, the cooperation of those executing the questionnaires, the accessibility of free treatment, the number of unrecognized cases, and the lack of follow-up of individual patients, as discussed in the prevalence study of fourteen communities in *Venereal Disease Information*, Volume IX, Number 2, February, 1928. Each of these factors tends to lower the prevalence rate rather than to inflate it so that we may assume that the prevalence rates determined by this series of studies represent the minimum rates. The work has been accomplished by means of questionnaires sent to physicians and clinics in the representative communities selected for survey. In the present survey the questionnaires were returned with the statement of the number of cases of venereal disease under treatment or observation on July 26, 1928.

SOURCE OF REPORT

Table No. I indicates that 50 per cent of the physicians and public clinics had one or more cases under treatment. Of the 8,475 total cases reported under treatment in the counties of Virginia surveyed, 79 per cent were being treated by physicians, less than 1 per cent by other private practitioners and 21 per cent by public clinics..

PREVALENCE RATES

The case rates for gonorrhea are two and a half times greater for the male than for the female. The syphilis rate for male is only one and a half times greater than for the female. It will be noted from Table No. II and Figure No. 1 that the case rate for the white and colored races for gonorrheal and syphilitic infections are quite different. The rates among the white population are 3.23

*Statistical analysis, tables and graphs by Miss Usilton; field work on questionnaires by Mr. Riley.

TABLE NO. I.

SOURCE OF REPORTS ON THE NUMBER OF CASES OF SYPHILIS AND GONORRHEA UNDER TREATMENT OR OBSERVATION ON JULY 26, 1928, FROM THE EIGHTEEN COUNTIES OF VIRGINIA SURVEYED

SOURCE	NUMBER REPORTS	REPORTING NO CASES	NUMBER REPORTING ONE OR MORE CASES	PERCENTAGE OF EACH SOURCE REPORTING ONE OR MORE CASES	NUMBER OF CASES	PERCENTAGE OF CASES REPORTED BY EACH SOURCE
Total.....	1159	564	595	51.3	8475	100.0
Physicians.....	1059	497	562	53.1	6684	78.9
Other private practitioners.....	42	38	4	9.5	10	.1
Public clinics—voluntary attendance	58	29	29	50.0	1781	21.0

for gonorrhea and 2.95 for syphilis whereas for the colored the gonorrhea is less than one-half that for syphilis, the rates for the colored population being 2.86 for gonorrhea and 6.02 for syphilis. As has already been pointed out these rates represent patients constantly under medical care and therefore do not reveal the true prevalence of venereal diseases. The fact that the rate for the cases under treatment for gonorrhea is lower among the colored than the white race while the rate for syphilis is so much higher probably indi-

cians who were treating an appreciable number of cases of venereal disease had cases of both gonorrhea and syphilis under treatment. Since 79 per cent of the total cases of venereal disease included in the study are in the hands of private physicians, it is encouraging to find that 92 per cent of these cases are in the hands of 31 per cent of the physicians. Through the active participation of these physicians in control efforts with health authorities much can be accomplished toward decreasing the prevalence of the disease.

TABLE NO. II.

PREVALENCE OF GONORRHEA AND SYPHILIS BY SEX AND COLOR OF PATIENT WITH ESTIMATED POPULATION AS OF JULY 1, 1928, IN THE EIGHTEEN COUNTIES OF VIRGINIA SURVEYED

	WHITE AND COLORED			WHITE			COLORED		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
Cases reported under treatment by physicians and public clinics.....									
Gonorrhea and syphilis.....	8475	5756	2719	4961	3573	1388	3514	2183	1331
Gonorrhea.....	3722	2747	975	2591	1960	631	1131	787	344
Syphilis.....	4753	3009	1744	2370	1613	757	2383	1396	987
Case rate per 1,000									
Gonorrhea and Syphilis.....	7.07	9.05	4.84	6.18	8.34	3.71	8.88	10.51	7.07
Gonorrhea.....	3.11	4.32	1.73	3.23	4.57	1.69	2.86	3.79	1.83
Syphilis.....	3.97	4.73	3.10	2.95	3.76	2.02	6.02	6.72	5.25
Estimated population, July 1, 1928	1,198,678	636,327	562,351	802,848	428,637	374,211	395,830	207,650	188,140

cates that the colored population suffers less severely from a gonorrheal infection than does the white patient.

DISTRIBUTION OF PHYSICIANS

In Table No. III we have the distribution of physicians by the number of cases of venereal disease under their care. This tabulation revealed that practically all the physi-

PERCENTAGE DISTRIBUTION OF PRIVATE PRACTICE AND PUBLIC CLINIC CASES

In Table No. IV we have the percentage of cases under treatment in private practice as compared with those in public clinics. These data are by sex and color of the patient. Although private practice cases are very well distributed the acute cases of gonorrhea and the

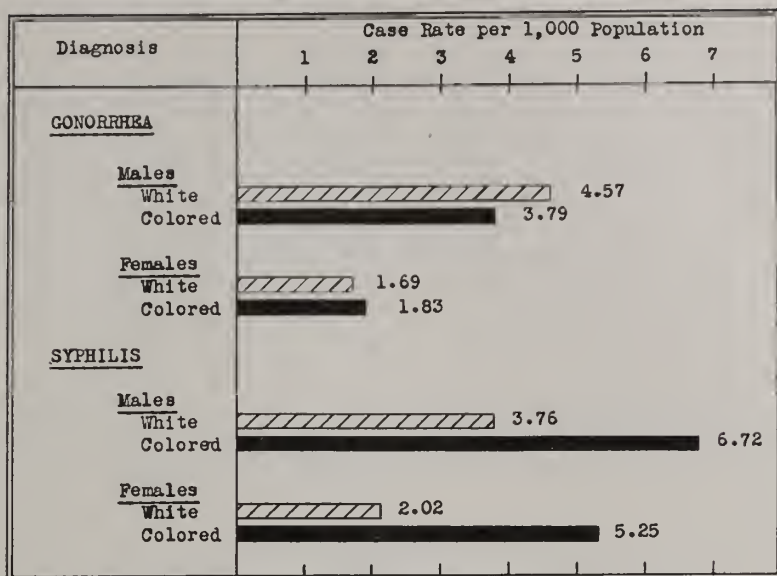


Fig. 1.—Prevalence of gonorrhea and syphilis among the white and colored population of eighteen surveyed counties of Virginia.

late cases of syphilis make up a slightly higher percentage of the total cases of venereal disease under treatment. The public clinic cases are overwhelmingly late syphilis. Proportionately three times as high a percentage of the colored patients are treated in the public clinics as is true of the white ones. In fact among the colored females, 40 per cent are treated in the public clinics as compared with 17 per cent of the white females, and there is a smaller percentage of the white males treated in public clinics than any other group of patients. There are approximately twice as high

a percentage of the white females in public clinics as white males.

PREVALENCE RATES BY COUNTIES AND CITIES

The extent of the prevalence of venereal diseases in each county based on those cases that were reported under medical care in the territory surveyed is depicted in Map A of Figure 2 and Table V. The medical centers are shown in their county of location. It will be noted that in each instance the case rate for venereal disease per 1,000 population in those counties in which the treatment cen-

TABLE NO. III.

DISTRIBUTION OF PHYSICIANS BY NUMBER OF CASES OF GONORRHEA AND SYPHILIS REPORTED UNDER TREATMENT, SHOWING PHYSICIANS HAVING UNDER TREATMENT CASES OF GONORRHEA ONLY, OF SYPHILIS ONLY, AND THOSE HAVING CASES OF BOTH ON DATE OF SURVEY

NUMBER OF CASES UNDER TREATMENT	DISTRIBUTION OF PHYSICIANS BY CASES REPORTED		PHYSICIANS HAVING UNDER TREATMENT:						TOTAL CASES OF VENEREAL DISEASE REPORTED UNDER TREATMENT	
			GONORRHEA ONLY		SYPHILIS ONLY		GONO. AND SYPH.			
	NUMBER	PER CENT	NUMBER	PER CENT	NUMBER	PER CENT	NUMBER	PER CENT	NUMBER	PER CENT
Total	1059	100.0	83	100.0	104	100.0	375	100.0	6684	100.0
1 to 4.....	232	21.9	73	88.0	83	79.8	76	20.3	540	8.1
5 to 9.....	149	14.1	8	9.6	16	15.4	125	33.3	1001	15.0
10 to 14.....	60	5.7	1	1.2			59	15.7	676	10.1
15 to 19.....	35	3.3	1	1.2	3	2.9	31	8.3	588	8.8
20 to 49.....	62	5.9			2	1.9	60	16.0	1750	26.2
50 or over.....	24	2.3					24	6.4	2129	31.9
None.....	497	46.9								

ter is located is proportionately higher than any of the counties surrounding it.

The selection of territory for surveys was made with the idea that the effect of migration of persons infected with venereal disease from the rural communities to the city for treatment might in some wise be measured. Obviously the location of public clinics for the treatment of venereal disease influences the case rate of the county as is reflected in the comparative rates quoted below.

A similar situation exists in the two eastern groups. Those patients in the counties of Chesterfield and Prince George go either to Richmond in Henrico County or Petersburg in Dinwiddie County where in the one instance we have the Medical College of Virginia with a venereal disease clinic, and in the other a hospital for colored persons which reported the largest number of cases of inmates under treatment for syphilis of any institution in the State.

TABLE NO. IV.

THE PERCENTAGE OF THE TOTAL PRIVATE PRACTICE CASES OF VENERAL DISEASE, ACCORDING TO DIAGNOSIS AND STAGE OF THE DISEASE, AS COMPARED WITH THE PERCENTAGE OF EACH GROUP IN PUBLIC CLINICS

SEX AND COLOR OF PATIENT	UNDER TREAT- MENT IN:	TOTAL		NUMBER OF CASES				PER- CENT- AGE OF TOTAL CASES	PERCENTAGE OF CASES			
				GONORRHEA		SYPHILIS			GONORRHEA		SYPHILIS	
		No.	%	ACUTE	CHRONIC	EARLY	LATE		ACUTE	CHRONIC	EARLY	LATE
Grand total.....		8475	100.0	2214	1508	1775	2978	100.0	26.1	17.8	20.9	35.1
Total.....	Private practice...	6694	79.0	2081	1361	1342	1910	100.0	31.1	20.3	20.0	28.5
	Public clinics.....	1781	21.0	133	147	433	1068	100.0	7.5	8.3	24.3	60.0
White:	Private practice...	4397	88.6	1580	873	839	1105	100.0	35.9	19.9	19.1	25.1
	Public clinics.....	504	11.4	80	58	105	321	100.0	14.2	10.3	18.6	56.9
Colored:	Private practice...	2297	65.4	501	488	503	805	100.0	21.8	21.2	21.9	35.0
	Public clinics.....	1217	34.6	53	89	328	747	100.0	4.4	7.3	27.0	61.4
Male:	Private practice...	4754	82.6	1653	904	944	1253	100.0	34.8	19.0	19.9	26.4
	Public clinics.....	1002	17.4	105	85	262	550	100.0	10.5	8.5	26.1	54.9
Female:	Private practice...	1940	71.3	428	457	398	657	100.0	22.1	23.6	20.5	33.9
	Public clinics.....	779	28.7	28	62	171	518	100.0	3.6	8.0	22.0	66.5
White Male:	Private practice...	3250	91.0	1251	616	614	769	100.0	38.5	19.0	18.9	23.7
	Public clinics.....	323	9.0	63	30	64	166	100.0	19.5	9.3	19.8	51.4
White female:	Private practice...	1147	82.6	329	257	225	336	100.0	28.7	22.4	19.6	29.3
	Public clinics.....	241	17.4	17	28	41	155	100.0	7.1	11.6	17.0	64.3
Colored male:	Private practice...	1504	68.9	402	288	330	484	100.0	26.7	19.1	21.9	32.2
	Public clinics.....	679	31.1	42	55	198	384	100.0	6.2	8.1	29.2	56.6
Colored female:	Private practice...	793	59.6	99	200	173	321	100.0	12.5	25.2	21.8	40.5
	Public clinics.....	538	40.4	11	34	130	363	100.0	2.0	6.3	24.2	67.5

Let us consider the north central group in which, according to Map B of Figure 2, each of the three counties has approximately the same density of population, and yet Albemarle County which has the large venereal disease clinic of the University of Virginia has a case rate which is very much higher than either of the other counties. In one instance it is more than twice as high and in the other instance nearly five times as high.

It is a known fact that in the presence of adequate and convenient facilities for the treatment of venereal disease more persons infected seek treatment. This fact undoubtedly accounts in part for the reported high case rate in Albemarle County.

In the other eastern group, the patients from Nansemond and Princess Anne go either to Portsmouth or Norfolk for treatment, while those in Warwick and Elizabeth City go to Newport News.

In the west group of Lee, Wise and Russell counties we find the case rate for venereal disease in Wise County very high, especially among the colored population, this rate being 44.9 per 1,000 population; whereas among the white population the rate for this county is 8.4 per 1,000. The rate among the colored population for Lee County is also very high being 25.9 per 1,000. Undoubtedly in this mountain district there is a great deal of work to be done in regard to dissemination of in-

formation relative to prophylaxis and prevention.

The operation of a well-organized clinic at Norton in Wise County up until the time the survey was undertaken probably exercised some influence on the existing high prevalence rate. While this clinic was in operation it drew patients not only from Wise County but also from Lee and Russell County. This tendency of the Lee and Russell County patients to seek treatment in Norton when the clinic was in operation probably continued at the hands of private practitioners after the closing of the clinic.

Let us consider the relation of the case rates for the white and the colored races, especially

under the average, the rate being 3.73 while that for the colored is slightly above the average, 11.69.

In Dinwiddie County where the colored and white population is practically the same we have a preponderance of venereal disease among the colored population, the rate being 21.83 per 1,000 as compared with 8.50 for the white population.

We have included the population of the city of Newport News in the population of Warwick County, inasmuch as many of the persons residing therein seek their medical aid for venereal disease in Newport News. We find the rates for the white population to be 6.19 as compared with 11.40 for the colored.

TABLE NO. V.

PREVALENCE RATE OF VENERAL DISEASES PER 1,000 POPULATION IN THE EIGHTEEN COUNTIES OF VIRGINIA UNDER SURVEY

COUNTY	TOTAL CASES			RATE PER 1,000			SYPHILIS		GONORRHEA	
	TOTAL	WHITE	COLORLED	TOTAL	WHITE	COLORLED	CASES	RATE	CASES	RATE
Albemarle.....	453	193	260	12.35	7.38	24.69	366	9.97	87	2.37
Augusta.....	226	153	73	4.78	3.73	11.69	110	2.33	116	2.45
Chesterfield.....	51	31	20	2.23	2.07	2.52	24	1.05	27	1.18
Dinwiddie.....	863	244	624	15.15	8.50	21.83	663	11.57	205	3.58
Elizabeth City.....	113	67	46	4.18	3.74	5.03	46	1.70	67	2.48
Halifax.....	94	60	34	2.21	2.73	1.65	42	.99	52	1.22
Henrico.....	1906	1320	586	8.55	8.65	8.35	1058	4.75	848	3.81
Lee.....	88	70	18	3.30	2.70	25.97	46	1.73	42	1.58
Nansemond.....	118	38	80	3.74	2.76	4.50	37	1.17	81	2.57
Norfolk.....	1589	850	739	5.41	5.07	5.87	892	3.04	697	2.37
Pittsylvania.....	653	391	262	7.64	6.82	9.32	296	3.46	357	4.18
Princess Anne.....	43	17	26	2.78	1.76	4.47	17	1.10	26	1.68
Prince George.....	67	59	8	3.35	5.58	.85	28	1.40	39	1.95
Roanoke.....	905	707	198	10.06	9.43	13.18	436	4.85	469	5.21
Rockbridge.....	56	37	19	2.29	1.72	6.30	29	1.18	27	1.10
Russell.....	33	23	10	1.11	.81	7.01	24	.81	9	.30
Warwick.....	554	255	299	8.22	6.19	11.40	286	4.24	268	3.98
Wise.....	658	446	212	11.43	8.44	44.92	353	6.13	305	5.30
Total.....	8475	4961	3514	7.07	6.15	8.98	4753	3.97	3722	3.11

in those counties where the rates seem to be much higher than the average. In the first place we start with an average case rate for the whites of 6.15 and an average rate for the colored of 8.98. In Albemarle County where 29 per cent of the population is colored, we have a wide difference in the rates for the two races, that of the white being 7.38 while that for the colored is 24.69 per 1,000 population. In the adjoining county of Augusta with approximately the same density of population where there is only one-half as many colored persons and nearly twice as many white ones, we have a case rate for the white very much

Approximately two-thirds of the population in the county and the city are white.

Since with the concentration of population there is a greater opportunity for specialization in the treatment of diseases, one expects to find better facilities for diagnosis and treatment and therefore a higher reported venereal disease rate where the ratio of population to a physician is six or seven hundred as in Henrico and Roanoke Counties, than when there are twenty-two to twenty-three hundred persons per physician as in the sparsely settled predominately rural Princess Anne and Halifax Counties.

Among the whites the prevalence rates for syphilis are higher for the males than the females in each of the cities surveyed except Charlottesville. The same is true of the colored males. The colored female prevalence rate in Charlottesville is the highest syphilis rate in the six cities.

per cent in Tennessee and 56 per cent in Mississippi.

COMPARISON OF PREVALENCE IN VIRGINIA CITIES WITH OTHER CITIES

In Table No. VIII are listed all of the cities which have been included in the prevalence

TABLE VI.

PREVALENCE OF VENEREAL DISEASE IN SIX CITIES IN VIRGINIA, BY DIAGNOSIS, RACE AND SEX OF PATIENT

CITY	NUMBER OF CASES			RATE PER 1,000 POPULATION		
	SYPHILIS AND GONORRHEA	SYPHILIS	GONORRHEA	SYPHILIS AND GONORRHEA	SYPHILIS	GONORRHEA
TOTAL:						
Charlottesville.....	442	362	80	38.1	31.2	6.9
Staunton.....	163	91	72	10.2	5.7	4.5
Petersburg.....	860	660	200	22.3	17.1	5.2
Richmond.....	1,867	1,038	829	9.5	5.3	4.2
Danville.....	518	230	288	21.6	9.6	12.0
Roanoke.....	732	367	365	11.0	5.5	5.5

	NUMBER OF CASES				RATE PER 1,000 POPULATION			
	MALE		FEMALE		MALE		FEMALE	
	WHITE	COLORED	WHITE	COLORED	WHITE	COLORED	WHITE	COLORED
SYPHILIS:								
Charlottesville.....	58	95	81	128	14.6	67.1	18.3	71.6
Staunton.....	47	23	11	10	7.7	21.6	1.5	6.3
Petersburg.....	67	312	66	215	6.4	40.6	5.9	23.2
Richmond.....	471	208	195	164	7.3	7.3	2.8	4.9
Danville.....	90	72	31	37	10.5	25.6	3.4	10.5
Roanoke.....	187	56	82	42	7.0	9.6	3.0	6.6
GONORRHEA:								
Charlottesville.....	33	25	11	11	8.3	17.7	2.5	6.2
Staunton.....	31	19	19	3	5.1	17.8	2.6	1.9
Petersburg.....	63	65	45	27	6.0	8.5	4.0	2.9
Richmond.....	468	134	156	71	7.3	4.7	2.2	2.1
Danville.....	148	33	68	39	17.3	11.7	7.4	11.0
Roanoke.....	245	29	77	14	9.1	5.0	2.8	2.2

COMPARISON OF PREVALENCE IN VIRGINIA WITH OTHER STATES

The following table gives the prevalence rates for States which have been included in the survey. It will be noted that Virginia has a considerably higher prevalence rate than New York, Oregon, Kansas and Iowa which States have negro populations of less than 3 per cent. The Virginia rate is very similar, in fact even less than that of Mississippi and Tennessee both of which have a comparable number of colored population. In the territory under survey the colored population in Virginia formed 33 per cent of the total, 27

surveys, the rates ranging from 9.2 to 38.1 per 1,000 population. The average rate for all the cities is 13.03, the mean rate 17.12. The average rate for the cities having populations less than 75,000, is 18.1 as compared with 12.4 for the cities with more than 75,000.

INCIDENCE FACTOR FOR SYPHILIS

From the files of five public clinics treating syphilis in the counties surveyed, 225 case records of syphilis were studied as to the number of treatments given and the length of time between admission and last visit to the clinic. It was found that the mean duration of treat-

TABLE VII

COMPARISON OF PREVALENCE RATES PER 1,000 FOR WHITE AND COLORED POPULATION IN SEVEN STATES

STATE	POPULATION			NUMBER OF CASES			RATE PER 1,000 POPULATION		
	TOTAL	WHITE	COLORED	TOTAL	WHITE	COLORED	TOTAL	WHITE	COLORED
Iowa.....	2,428,000	.....	.....	6214	.....	.....	2.56	.....	.....
New York.....	4,765,275	.....	.....	25113	.....	.....	5.27	.....	.....
Oregon.....	877,682	.....	.....	4157	.....	.....	4.74	.....	.....
Kansas.....	591,769	.....	.....	3135	.....	.....	5.29	.....	.....
Virginia (18 counties)....	1,198,678	802,848	395,830	8475	4961	3514	7.07	6.18	8.88
Mississippi (16 counties)...	557,498	245,299	312,199	4202	1628	2574	7.54	6.64	8.24
Tennessee (31 counties and 3 others).....	1,430,281	1,047,480	382,801	11346	6704	4642	7.93	6.40	12.13

ment and observation in these clinics was 169 days during which time an average of thirteen treatments were given. This duration of the time of treatment and observation would indicate that there must be a complete change in clinic cases under treatment and observation for syphilis 2.16 times a year.

the decrease, only 9 per cent had fifteen or more cases under treatment.

SUMMARY

This survey of the prevalence of venereal diseases in eighteen counties of Virginia includes reports from clinics, physicians, and

TABLE VIII

COMPARISON OF PREVALENCE RATES PER 1,000 WHITE AND COLORED POPULATION IN THE CITIES OF VIRGINIA AND TENNESSEE AND THE CITY OF SAINT LOUIS

CITY	POPULATION			NUMBER OF CASES			RATE PER 1,000 POPULATION		
	TOTAL	WHITE	COLORED	TOTAL	WHITE	COLORED	TOTAL	WHITE	COLORED
Knoxville, Tenn.....	105,400	90,096	15,304	971	786	185	9.21	8.72	12.09
Richmond, Va.....	197,242	135,111	62,131	1,867	1,290	577	9.47	9.55	9.29
Staunton, Va.....	15,912	13,255	2,657	163	108	55	10.24	8.15	20.70
Roanoke, Va.....	66,319	54,116	12,203	732	591	141	11.04	10.92	11.55
St. Louis and 5 counties.	1,287,183	1,186,384	100,799	15,102	12,703	2,399	11.73	10.71	23.80
Nashville, Tenn.....	138,600	96,867	41,733	2,113	1,254	859	15.25	12.95	20.58
Chattanooga, Tenn.....	73,500	49,517	23,983	1,440	877	563	19.59	17.71	23.47
Memphis, Tenn.....	190,200	118,533	71,667	3,782	2,018	1,764	19.88	17.02	24.61
Danville, Va.....	24,031	17,687	6,344	518	337	181	21.56	19.05	28.53
Petersburg, Va.....	38,648	21,682	16,966	860	241	619	22.25	11.12	36.48
Charlottesville, Va.*.....	11,606	8,403	3,203	442	183	259	38.08	21.77	80.86

*Sixty per cent of the attendance at the venereal disease clinic in Charlottesville comes from the surrounding county.

OPINION OF PHYSICIANS ON STATUS OF DISEASE

The questionnaire made provision for recording the opinion of the physicians as to the status of venereal disease. Forty-five per cent of the physicians answered the question. 13 per cent to the effect that the disease was on the increase, 19 per cent stated in their opinion it was on the decrease, and 13 per cent that there was no change. Of those physicians indicating the disease was on the increase, 34 per cent had fifteen or more cases under treatment, while of those physicians expressing the opinion that the disease was on

other institutions serving a population of 1,198,678, approximately one-half of the population of the State.

The case rate for gonorrhea is 3.11 while that for syphilis is 3.97. The case rates for gonorrhea were found to be two and one-half times greater for the male than for the female; the syphilis rate for the male is only one and one-half times greater than for the female.

The counties with the highest case rates for venereal disease prevalence were Dinwiddie, Albemarle, Wise, and Roanoke, ranging from ten to fifteen cases per 1,000 population.

In those counties where the colored population forms a very small proportion of the county population the prevalence rate for colored persons with a venereal disease is extremely high, as, for example, in Wise and in Lee Counties where they form less than 10 per cent of the population, the rates are 44.9 and 25.9 per 1,000, respectively. In those counties

colored patients are under treatment in public clinics as among the white. The smallest percentage of the white males are treated in public clinics, the percentage of white females in public clinics being almost twice as large. The highest prevalence rate for the Independent Cities of Virginia surveyed is found in Charlottesville and Petersburg, the rates

TABLE IX
DISTRIBUTION OF PHYSICIANS BY THE NUMBER OF CASES OF VENEREAL DISEASE REPORTED UNDER TREATMENT, SHOWING THEIR OPINION ON THE PRESENT STATUS OF VENEREAL DISEASE

NUMBER CASES	THAT DISEASE HAS INCREASED		THAT DISEASE HAS DECREASED		NOT CHANGED		NO OPINION GIVEN		NUMBER OF PHYSICIANS		NUMBER CASES UNDER TREAT.	
	NUM-BER	PER CENT	NUM-BER	PER CENT	NUM-BER	PER CENT	NUM-BER	PER CENT	NUM-BER	PER CENT	NUM-BER	PER CENT
Total.....	134	12.7	203	19.2	135	12.8	587	55.4	1059	100.0	6684	100.0
1 to 4.....	30	22.4	82	40.4	38	28.2	82	14.0	232	21.9	540	8.1
5 to 9.....	30	22.4	32	15.7	37	27.4	50	8.5	149	14.1	1001	15.0
10 to 14.....	12	8.9	15	7.4	17	12.6	16	2.7	60	5.7	676	10.1
15 to 19.....	9	6.7	5	2.5	11	8.1	10	1.7	35	3.3	588	8.8
20 to 49.....	25	18.7	9	4.4	13	9.6	15	2.6	62	5.8	1750	26.2
50 or over.....	11	8.2	4	2.0	4	3.0	5	.8	24	2.3	2129	31.9
None.....	17	12.7	56	27.6	15	11.1	409	69.7	497	46.9	.....	.....
Total.....	134	100.0	203	100.0	135	100.0	587	100.0	.....	.....	.....	.....

where there is a more or less equal division among the white and colored races the rates are very much more alike with the exception of Dinwiddie County where the rates for the colored are also very high being 21.8 as compared with 8.5 for the white. Among those patients under treatment in public clinics the greatest number are those with late syphilis. Approximately three times as high a percentage of the cases among the

being 38.1 and 22.3, respectively. The lowest prevalence rate among these cities is reported from Richmond, which rate is 9.5. Virginia has a considerably higher prevalence rate than those States surveyed in which the colored population is less than 3 per cent. However, in those States in which there are a comparable number of colored population, the Virginia rate is very similar, in fact even less than that of Mississippi and Tennessee.

PERINEOTOMY VERSUS LACERATION.*
By ROBERT PATTON KELLY, M. D., F. A. C. S.,
Lynchburg, Va.

When we cut or sever any part of the human anatomy, the term for the operation is generally the name of the part cut with “-otomy or -ectomy” appended. Following this idea and recalling the fact that Dr. Polak “called my hand” at a meeting of the College of Surgeons when I used the word “episiotomy” in discussing his paper, I have taken as the subject of my remarks “Perineotomy versus Laceration.” However, perineotomy is really a deeper incision into the perineum than that

which is usually done under the name of episiotomy. In spite of this I shall reserve the right to use the two words synonymously in order not to offend the senses of the most technical. The history of efforts to protect the perineum from serious injury dates from the time of Hippocrates, who used salves and douches, hoping to induce sufficient relaxation to prevent a tear. This was also advised by Baudelocque and many others; and to this day is used by some, while others have resorted to dilating and ironing out the perineum, as well as many other methods, all of which have been unsuccessful in preventing laceration. The earliest accounts I am able to find of

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.
We regret to announce that Dr. Kelly died June 11, 1930, after this paper had been put in type and corrected by author.

episiotomy or perineotomy are those of Ould, in 1742, and Michaelis, in 1810, the former cutting the vulvar outlet and the latter incising the perineum to avoid a tear. Among others who have practiced similar procedures may be mentioned Ritgen, Schultze, Scanzoni, Crede, Pomeroy, Henkle, Tarnier and Duhrssen, the last named in 1888. The work of these famous men, combined with the teachings and influence of DeLee and a few others, has led to an almost perfect technique in the employment and repair of episiotomy or perineotomy.

Our professional procedures and ideas are generally, like our moral life, influenced by the sort of company we keep. We subconsciously find ourselves thinking and acting more or less in the same manner as those with whom we are associated, both personally and professionally. As a result of our different ideas, arising from varying professional environment, we naturally often do not agree as to certain procedures in the management of our cases; therefore, I shall not feel the least bit hurt if any one disagrees with me in what I shall say concerning episiotomy.

For my part, I feel that nothing else I do has been so great a boon to me and my patients as the operation known as episiotomy, and when I look back over my first twelve years of professional life, the years of general practice, I wonder how I was able to do obstetrics without the employment of this most useful operation.

When one witnesses his first episiotomy or perineotomy he is shocked; he wonders why that crazy doctor is cutting such a terrible gash in this poor woman's perineum, and he feels that the doctor will never be able to restore his patient to a normal condition. However, after observing a few of these operations, one begins to weaken in his objections and finally becomes converted and is an advocate of the method.

Episiotomy may vary in extent from a very small incision to one going into the levator muscle. It may also vary considerably as to the direction of the cut from a median to a lateral incision, depending on the indications, and the preference of the operator. My own preference, due to my professional contacts, no doubt, is a left medio-lateral. Many advise a median incision, claiming more ease in repair because of similar structures on the

two sides, but a little practice will very soon render the medio-lateral repair just as easy, and one has the added advantage of avoiding injury to the sphincter ani by extension of the cut into or through that muscle.

The indications for episiotomy vary according to the ability of the obstetrician to repair the cut, and are governed, to some extent, by the place of delivery, whether home or hospital. In some of the home cases, and in the hospital, too, we can often prevent the use of low forceps by resorting to a small episiotomy, which is much to be preferred.

There are two guides as to the proper moment to cut the perineum when it is being pressed upon by the baby's head; one is the opening of the anus and its dislocation downward and forward, the other is the bleaching of the skin from stretching by the pressure or an incipient tear in the skin around the baby's head. In the latter case it is sometimes too late, but when these things occur it is high time to cut the perineum if we wish to prevent laceration.

I shall mention some of the most important indications for this operation, according to my personal views. In the delivery of so-called normal cases in primiparae, when a tear is about to occur, I know of no better method of treatment than to incise the perineum, thereby avoiding a laceration which may extend in various directions and give the most expert surgeon the greatest trouble to repair, the result even then being not nearly so good as that obtainable from the repair of an episiotomy, to say nothing of the shorter time required in the latter case.

In forceps deliveries this operation has one of its most valuable applications, from the standpoint of obstetrician, patient and baby. As a rule I do the perineotomy before attempting rotation of the head, since the maneuver is rendered considerably easier; while otherwise it may itself cause more or less injury to the vaginal mucosa and perineum. The application is made much easier and the amount of traction required to extract the child is much less, resulting often in the difference between a living baby and one dead, either at the time of delivery, or a few days later, from cerebral hemorrhage. It is forceps deliveries, more than any other one thing, that destroy the perinei of so many women, the lacerations in these cases being almost one hun-

dred per cent: and they are more extensive, besides being extremely difficult of repair. In such cases we often prevent complete laceration by employment of this operation.

Another field of application in which the value of episiotomy cannot be overestimated is in the delivery of breech cases, breech extractions, or any case in which it becomes necessary to deliver the baby feet-first, such as version and extraction. In these cases we are often surprised by the ease with which delivery of the after-coming head is accomplished.

Indications for this operation, which I simply wish to mention, are met with in perinei which have had former repairs and contain considerable scar tissue; and in all cases in which delivery may be urgent for the sake of either mother or baby, episiotomy offers the best chance for good results.

As a result of this operation there are a number of advantages which may be mentioned in a general way. In the first place, infection in episiotomy repairs is much less frequent than in lacerations, due, perhaps, to less trauma and to the fact that a smooth cut will heal better, and also because the trauma in episiotomy is less and the tissues, being devitalized the less, offer the greater resistance to infection. In other words, episiotomy, where laceration would otherwise occur, rather prevents than causes infection.

We all are familiar with the multipara who consults us with a large cystocele and rectocele, the result of a laceration which occurred at the birth of a former baby, usually the first. Many of these patients have misplacements and relaxation or prolapse of all the pelvic organs, and no repair operation can restore these conditions to quite normal, whereas, in the great majority an episiotomy properly repaired would have prevented the occurrence of such a pathologic condition. Many women suffer for years as the result of such lacerations and finally are compelled to submit to operation for relief. The cost of these operations amounts to hundreds of dollars; so merely from economic considerations we should try to deliver our patients with as little perineal injury as possible. Episiotomy offers the best solution of this problem.

The technique of the repair of an episiotomy is extremely important. On the character of the repair depend the results; and this also applies to lacerations. The usual "through

and through" method of suture will not suffice in either condition. (For a full description of the technique of this operation and its subsequent repair, as well as the repair of both old and new lacerations, see my paper on "The Care and Repair of the Cervix and Perineum in Confinement Cases," *VIRGINIA MEDICAL MONTHLY*, February, 1928).

The technique of this operation as performed in the Chicago Lying-in Hospital by DeLee and his associates is, briefly, as follows: The vaginal mucosa is first sutured, using chromic cat-gut, continuous, beginning at the extreme end of the vaginal cut, carrying this suture to the muco-cutaneous junction, where it is made sub-mucous, if not already so, and then used to close the sphincter cunni muscle, left long temporarily and laid on patient's abdomen. With two Allis clamps the levator, if cut, is now "fished" out on either side. A second rubber glove, known as the rectal or perineorrhaphy glove, is then put on the left hand, and the left fore-finger is inserted into the rectum in order to protect the latter from injury, while one, two or three interrupted cat-gut sutures are passed through the muscle. These sutures are not tied as put in, but are clamped and held by an assistant. The finger is then withdrawn from the rectum and the extra rubber glove is removed and the hands of the operator are then thoroughly washed in the bichloride and lysol solutions. The perineal sutures are then tied. A second cat-gut suture of the same material is then used as a continuous suture to close the urogenital septum and the fascia, is then tied with the original vaginal suture and cut off with the latter. A subcutaneous silk-worm-gut, starting just inside the vagina, is then used to close the skin and is run rather deep in the fascia at the lower end of the skin incision and made to emerge about two or three centimetres to the left of this point. The ends of this suture are left long or very loosely tied together. Instead of the silk-worm-gut for the skin, I have been using, for the past four years, the long end of the original vaginal suture as a subcutaneous suture to close the skin, and, as a result, the patients have suffered less and have had no infections worth mentioning.

The above technique may be modified, after the vaginal mucosa and the sphincter vaginae muscle are sutured, by substituting for the

perineal cat-gut sutures three or four "figure-of-eight" silk-worm-gut, the first part of the figure taking in the levator muscle and the rest of the figure including the urogenital septum, fascia and skin, the original vaginal cat-gut suture being tied with the upper silk-worm-gut suture. These sutures are not cut short, after being loosely tied, but are twisted together and tied in one knot several inches from the skin wound. This latter, simpler method is recommended for those doing their first repairs of this kind and has the additional advantage of saving considerable time where this is an item to be considered. There is probably less danger of infection in this manner of repair. The disadvantages of this method are that the patients suffer considerably more and the stitches have to be removed and the cosmetic effect is not always as good.

The point I wish to stress most is that if we do this operation, we will prevent many severe lacerations and, consequently, much physical discomfort and actual suffering, as well as the subsequent expenditure of large sums of money for surgical treatment and hospital charges. Furthermore, when we consider the other advantages to which I have referred above, we must admit that in the proper application and repair of episiotomy or perineotomy we offer our patients an ounce of prevention which cannot be equalled by many pounds of cure.

DISCUSSION.

DR. C. J. ANDREWS, Norfolk: I am very much interested indeed in this subject. I have been using this plan for a number of years, not exactly as Dr. Kelly does, but very nearly. In the first place, undoubtedly the plan of allowing the head of the baby to remain on the perineum for several hours is not good for either the woman or the baby—that is, if you know what to do and are prepared to do it. In the second place, anyone who has done abdominal surgery knows if you try to do anything in the abdomen with the woman half under the anesthesia her muscles are thoroughly tight and you can not do much, but if you put her to sleep the muscles relax. So, while Dr. Kelly did not mention anesthesia, I think getting complete anesthesia is one of the first things.

One of the first objects is not only not to tear the perineum but not to tear the vaginal supports. He did not mention ironing the perineum. Put the woman thoroughly to sleep, then iron the perineum, and relax the vaginal supports. Practically always I put on the forceps and deliver the baby.

A number of years ago I saw Dr. DeLee do his method of perineotomy, and I have used that. I had one case in which the sutures did not hold very well, and I think probably that had something to do with my stopping its use. I would say this method Dr. Payne put on the board is a good illustration of what I do. Make a median incision, and curve toward

the side of the rectum. If there is any likelihood of your stitching the rectum with your stitch, then put your finger in there. One of the most difficult cases I have had to deal with (I am very happy to say I did not do it myself), is where several stitches were put in the rectum and caused fistulas. There is no doubt that when these women come in for their discharge examination, six weeks after delivery, you would have great difficulty in telling that they have ever had a baby. It certainly seems worth while to try to prevent cystocele or rectocele if you can prevent them by perfectly rational means. Incidentally, it saves the woman about two hours' labor and I think it prevents a great many other troubles.

DR. LEWIS M. ALLEN, Winchester: This subject interests me very much. As just a little while ago it seemed a difference of opinion arose, I am going to differ just a little bit with those who have gone before. I feel that if I felt called upon to do an episiotomy or perineotomy, or whatever you may choose, in as many cases as we have heard it is probably indicated, I had learned very little obstetrics in the time I had practiced. I am certainly not one of those who believe that protection of the perineum is without result. I do episiotomy or perineotomy in a few cases and have done it for many years. I feel I almost owe an apology and feel it quite impertinent in me to differ with a man like Dr. DeLee, but I feel that I can prevent a perineal laceration in a very large majority of the cases, and that episiotomy will not be indicated in a majority of the cases but only in a very small number. And, as to the advantages and disadvantages of the operation, I believe Dr. Andrews mentioned one. One is scar tissue after the operation. While it is not the amount of scar tissue that follows perineal laceration, yet there is a certain amount of scar tissue, and in a second delivery there is likely to be a laceration. As to stating the time when laceration will occur, I must say I am in considerable doubt, because I have delivered a considerable number of women in whom laceration seemed inevitable, but by persistence in ironing out the perineum and by conservative means, with the patient relaxed by anesthesia, the laceration has been prevented. Practically all my patients are under anesthetic when the head is delivered.

Dr. Kelly said he rotated the head after the perineum is cut. One of the reasons for rotating the head is the resistance of the perineal tissues below. Therefore, if we remove the resistance of these perineal tissues by cutting them, we do not have that resistance and do not have nature's method of rotating that head.

One of the most frequent indications, it seems to me, for the performance of an episiotomy is in those cases where the head has been pressed into the pelvis and remains there a considerable length of time and, by reason of its remaining there, the pelvic circulation is very much interfered with and the resistance of the tissues is lost. All of us have seen those cases, especially in doing consultation work. The circulation is so interfered with in such cases that the perineal tissues do not tear but simply break open like blotting paper. No power in the world can prevent that break. Here, it seems to me, is a demand for episiotomy. Cut, and cut as far as necessary, on either side; it makes no difference.

Many years ago I abandoned the use of the finger in the rectum in doing perineotomy. It is not a very clean surgical procedure. The tissues can be pulled up from within without introducing the finger.

The remarks as to anesthesia a few minutes ago seemed to me almost unnecessary, because, as I re-

marked, practically all my patients are anesthetized, not to surgical degree, but to what I call the obstetrical degree, so that the tissues are relaxed.

DR. GREER BAUGHMAN, Richmond: I just want to call attention to one or two points and emphasize one or two things that Dr. Kelly has already said. I am interested in episiotomy not simply for the mother (and I may say just in passing that we have had brilliant results with them and sometimes it is rather difficult to tell afterwards whether they have been cut or have not been cut), but I do it mainly in the interest of the baby.

How do I judge how wide to cut? I depend as much as anything else upon what the anus is doing. If the first time the head hits the perineum the anus opens wide, I know I have to cut and cut good and deep. I am not a genius at this cutting; sometimes I cut and they unravel a little more, but they unravel on the skin, and that does not mean anything. It is the fascia that I want to save, and if I can cut before that fascia is widely torn, I think I am doing a good thing.

As to the question of ironing out, I think sometimes that is a good procedure. But what are you really doing? You are shoving muscles back and causing the fascia to relax. Sometimes you tear it and do not know it.

DR. KELLY, closing the discussion: I am going to say very little, gentlemen, but I could say a great deal. I think we could stand here and argue about this thing for some hours. I know, as I said at the beginning, that many men differ with me as to when this operation should be done and how it should be done. As I said in my paper, the way we think about these things depends upon our experience, our results, and our teaching. I will say one thing in self defense, and that is, so far as the scar tissue is concerned as a result of these episiotomies, in a majority of my cases when they come back for the next delivery you can not see where the scar is, and I repeat the episiotomy in exactly the same place. I have had some of my cases delivered later by other men and have had some of those men say to me that when the woman came in they thought she was a primipara.

I do not want to be understood as saying that the episiotomy should be done in every case. There are a few cases, very few, that deliver without laceration, but when they come in, six or eight weeks later, they have not the same perineum.

One of the doctors spoke of anesthesia. I never deliver any woman who is conscious of the birth of her baby. I did not intend to go into that. In all these cases I do deliver the patient under anesthesia. When I do an episiotomy I get the patient to the stage where she can not feel the cut, perform the episiotomy, and then let her deliver herself.

Referring to the posterior occiputs, I think in the majority of these cases there is not very much pressure on the perineum until after the baby's head has been rotated. My rule is this; in a primipara who has been in the second stage of labor for one hour and who is not making progress and does not bid fair to deliver herself very early, for the sake of the baby, as Dr. Baughman said, as well as herself, I do an episiotomy, put on forceps and deliver the baby without much trauma to either mother or baby.

I thank the gentlemen for the discussion and am sorry that we do not all agree.

OPTIC NEURITIS—THE TONSIL AS AN ETIOLOGIC FACTOR.*

By W. O. BAILEY, M. D., Leesburg, Va.

The last two decades have witnessed a metamorphosis in every field of medicine and surgery. Empiricism and theory have been hurled ruthlessly down from their unstable pinnacle of arrogant omniscience and reduced to a state of intellectual catalysis. In no field of medicine have greater changes been wrought than in the field of ophthalmology, and in no field of medicine have these changes resulted in a more congenial understanding and cordial interdependence than that which exists between the ophthalmological specialist and the practitioner of internal medicine. In this great revolution of thought, optic neuritis has received its just due of transmutation.

Anatomically, the optic chiasma rests upon the tuberculum sellae and the anterior part of the diaphragma sellae, between the two optic thalami, with the anterior perforated space, on each side, juxtaposed. Above is the lamina terminalis; behind the tuber cinereum.

The optic nerves are really outgrowths of the cerebrum. This makes them occupy a distinctive position in the anatomy of the human body. Dura, pia and arachnoid cover them. Fibers derived from the ganglionic cells of the retina, enter the orbit and optic foramen and, lying near the sphenoidal and ethmoidal sinuses, pass through the chiasma and optic tracts to arborize around cells in the lateral geniculate body, pulvinar and superior colliculus. From thence they go to the cuneus near the calcarine fissure. The crossed and uncrossed fibers and Gudden's commissure are too familiar to bear repetition.

Etiologically: (1) Diseases of the brain and its membranes; (2) Syphilis; (3) General diseases and chronic disturbances of nutrition; (4) Anemia (primary and secondary); (5) Diseases of menstruation and pregnancy; (6) Chemical poisoning; (7) Heredity; (8) Idiopathic; and (9) Orbital and peri-orbital affections, are given. The tonsil is mentioned casually by some authorities; by many not at all. By most it is stated to be of rare occurrence, but admitted; if it be removed and is a focus, cure follows.

Pathologically: Three kinds are recognized: (a) True, exudative or septal, where protrusion of the disc is slight but exudation marked;

*Read before the Virginia, Maryland and District of Columbia Medical Society, during Fall of 1929.

(b) Congestive, or choked disc, where protrusion of the disc is marked, exudation absent and spinal pressure usually increased; and (c) Retrobulbar, or axial, where the orbital part of the neuron is affected.

Why is selective localization of the tonsil made by the optic nerve? Billings and Rose-now explain it thus:

"Bacterial emboli pass through the blood stream to small terminal vessels. If the organisms are sufficiently virulent, and possess specific affinity for the tissue, they excite characteristic reactions and morbid changes. Scant blood supply and low oxygen content favor this invasion. Mesoblastic tissue appears to be especially favored; hence infection through the lamina cribrosa of the sclera."

Bibliographically: From 1917 to 1922, Wyler, Sobotky, Hansell, Carpenter, Bell, Suker and Harry report nine cases—six monocular and three binocular. Tonsillectomy was performed in eight cases and refused in one. Fields of vision, for form and color, were reported contracted in five cases, and remained permanently so in one. The other four cleared. The case which was not operated on likewise recovered. They insist that tonsillectomy cured the condition in the other eight. Normal vision was obtained in all cases but one. In this vision was 4/5.

Specifically: Three cases have come to me within the last four years,—one characterized by papillitis, one by retrobulbar neuritis, and the third was septal in nature. There was nothing distinctive about the pathology in any one of these cases. The first two were monocular, with sudden diminution of vision. In the first two, vision was, respectively, 20/200 and 8/200 when first seen. Within thirty days after tonsillectomy, vision in both eyes was normal. In the septal case, vision in the right eye was 3/200 and in the left 20/200 when first seen. Blood and spinal Wassermanns, X-ray of teeth and sinuses, general physical examination, urinalysis, etc., revealed nothing. The tonsils were hypertrophied, cryptic and diseased. Tonsillectomy was recommended and refused. A full course of salvarsan was given despite negative Wassermanns. Total blindness ensued within ninety days. The patient is now led about. Unfortunately, in none of these cases was the visual fields taken.

Prognosis is good with early operation. Temporizing is irrational and futile.

The future is of auspicious augury. A figure, curious and solitary, looms upon the horizon. His insignia is the scalpel, the re-tort and the microscope. He is the pathological surgeon. When Rosenow produced specific diseases with specific tonsil extracts, he was the unwitting harbinger of this new being. Guided and inspired by the great minds which have gone before us, governed and restrained by this new individual of superior collective mental attainments, forgetting personal aggrandizement and self-glorification, appreciative of encomium where encomium is due, oblivious to the scathing and withering denunciation which appears to be a part of our lot, ophthalmology, in felicitous concert with her sister branches, will go forward, with cheerful and self-reliant step, over its arduous and thorny road, to the end that the condition which I have reported here today will be anticipated and prevented, rather than appreciated and cured; and man shall, in some small part, at least, assist the Creator in working out his own immortality.

ACUTE ANTERIOR POLIOMYELITIS.*

By CHARLES F. GRAHAM, M. D., Wytheville, Va.

I have no conception by the furthest stretch of the imagination why the Program Committee should have selected me as one of the men to open the discussion on Infantile Paralysis, unless it was their idea to start with the weakest man and build up.

In my reading on this subject I find one of our leading medical schools classifies Infantile Paralysis as essentially an orthopedic disease, taking the view that few cases are diagnosed prior to paralysis. In the last few years the aim has been to make an early diagnosis and give treatment before paralysis, thereby either preventing or greatly lessening the number of cases having paralysis.

DIAGNOSIS

The usual symptoms are fever; gastro-intestinal disturbances; irritability; and pain in back of neck, back, arms or lower limbs. The physical signs usually first encountered are stiffness of the neck, and rigidity of the back, the stiffness and rigidity being really a reluctance to flexion, rather than an inability, due to pain. In cases presenting above symptoms lumbar puncture should be made. The spinal fluid is, under varying degrees of pres-

*Read before the Southwestern Virginia Medical Society, at Radford, Va., March 24-25, 1930.

sure, clear or slightly turbid; shows an increased cell count and increased globulin. Some authorities claim the increased cell count and globulin bear a direct index as to the extent and severity of the ensuing paralysis.

TREATMENT

First and foremost in the early treatment is spinal puncture, repeated at twenty-four hour intervals until pressure is normal. If convalescent serum can be obtained, it should be administered immediately intraspinally and intramuscularly. The intravenous route is recommended in most of the literature, but is apt to give severe reactions. I am informed on good authority that in the Manitoba and Roanoke epidemics the intramuscular route was found as good as the intravenous, if not preferable.

Following this specific treatment, quiet and absolute physiological rest in bed are paramount and must not only be urged but maintained. If any signs of paralysis develop, the muscle groups involved should be supported with a view to lessening the permanence of the paralysis. Of course the usual hygienic measures and diet of an acute infectious disease should be carried out, isolation and quarantine strictly maintained, since Infantile Paralysis has been proven beyond the shadow of a doubt to be a communicable disease.

With these purposely brief remarks on diagnosis and treatment and craving your indulgence I shall depart from the customary rule of reading a more or less didactic paper on this subject, which material you may get out of the various journals and books, and give you the case reports on three of the five or six cases it was my fortune or misfortune to be associated in the treatment of last summer.

CASE I.—A negro boy three and a half years old, while playing on the floor, suddenly had a convulsion. During the convulsion the child passed a worm. Worm medicine was administered. That night and the next morning, to put it in the words of the baby's grandmother, "it passed a bushel of worms and seemed a great deal better." The next day they noticed the child did not walk well and would not use its right arm. On examination, the following was ascertained: Pulse normal; temperature normal; respiration normal. The child was fretful and did not wish to be examined but did not cry. Neck moderately rigid, back slightly rigid and child resisted flexion. Ker-

nig sign present, knee jerks sluggish. There was a total loss of use of muscles of right arm, and partial loss in right forearm and right leg. History elicited the fact that in addition to the worm episode the child had had an attack of nausea and vomiting, with diarrhoea and fever, eight days prior to the development of the paralysis. Diagnosis of infantile paralysis was made, and confirmed by three other physicians. Family refused lumbar puncture. As case was considered in latter stages, same was not urged. Absolute rest for one month was ordered. At the end of this time the child had apparently regained the use of right leg and forearm but some paralysis was still noted in arm. At the present writing this case seems to have almost entirely recovered.

CASE II.—A young white boy thirteen years of age was brought to my office by his father, who noticed he carried his head as if his neck and back were stiff. He gave a history of having fallen from the running board of a car five days before, hurting his left side just above the crest of the ilium. The next day he had run some fever and, following a dose of oil, seemed normal.

Pulse 120; temperature 102; respiration normal. Examination showed boy to have a very stiff neck and back, and attempt at flexion elicited pain. Knee jerks slightly exaggerated, especially right side. Kernig sign present.

Patient taken home and lumbar puncture made. Spinal fluid was clear and came out under greatly increased pressure. Specimen taken to laboratory. White cell count 85; red cell 25; globulin test + 3.

Convalescent serum administered intramuscularly only, as family refused same to be given intraspinally. In twenty-four hours second lumbar puncture made. Spinal fluid was slightly cloudy and under greatly increased pressure. Pulse 120; temperature 104; respiration normal. The boy was restless, irritable, anxious and complained of headache. Second dose of convalescent serum administered.

In twenty-four hours third lumbar puncture made. Spinal fluid was slightly cloudy but under less pressure, by about half of what it had been two previous days. Pulse 102; temperature 101; respiration normal. Slight paralysis had developed in right leg and thigh.

In twenty-four hours fourth lumbar puncture made. Spinal fluid clear and under normal or very slightly increased pressure. Pulse 90; temperature 99; respiration normal. Paralysis more marked in right leg and thigh, and patient could not lift head off pillow. Slight paralysis left leg and thigh and abdominal muscles and in back. In about two weeks paralysis of back, neck, left leg and thigh muscles cleared up a great deal; abdominal and right legs and thigh remained. About one month later an orthopedic surgeon found about the same condition to exist.

At present this patient gets about, with definite difficulty remaining in right leg and thigh, but is able nevertheless to ride his bicycle about town.

CASE III.—About midnight a physician was called to see a girl of fourteen who had been taken suddenly with nausea and vomiting, and an excessive menstrual flow to the extent of flooding. Patient had no fever. Gave no history of having missed her menses, and it was time she was due. Ergot was administered and patient directed to remain in bed several days.

About thirty-six hours later, another physician saw the case and found patient to have temperature, rapid pulse, and, when she sat up in bed to bend over, she would faint and complained of pain in back, severe headache and light hurting eyes. Neck was not stiff and Kernig was absent. Knee jerks were exaggerated. The next day I saw patient with her second physician. She had about the same symptoms as day before but more exaggerated and ankle-clonus was present, also complained of pain in right shoulder extending down arm to elbow.

Lumbar puncture was decided upon. The spinal fluid was clear and under greatly increased pressure.

Laboratory report showed white cell count 25; red cell 20; and globulin + 3. Convalescent serum was administered intramuscularly.

The next day the patient seemed greatly improved and went on to an uneventful recovery. She had a slight inability to use her right arm a short time and complained of it being weak but no definite paralysis appeared.

In about six weeks an examination by an orthopedic surgeon could not disclose the slightest signs of paralysis.

Of the three other cases mentioned, one died and the other two had apparently a complete recovery.

SUPPURATIVE ARTHRITIS DUE TO HEMOPHILIC BACTERIA.

By FREDERICK W. SHAW, M. D., Richmond, Va.
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Medical College of Virginia.

Suppurative arthritis due to hemophilic bacteria of the influenzal type is a rare disease; the writer was able to find but fourteen cases reported in the literature, and of this number two were from Canada and none from the United States.

On account of the rarity of the disease a brief summary of the cases is given.

In 1899 Slawyk¹³ isolated the influenza bacillus from the lesions of a child of nine months with an abscess on the dorsum of the hand and arthritis of the ankle; death occurred from general infection and meningitis.

In 1903 Mya¹⁰ recovered a similar organism from the purulent fluid of arthritis of the shoulder-joint in a child one year of age. Death followed a meningitis.

In 1907 Dudgeon and Adams⁴ reported a baby with suppurative arthritis of the left elbow and right hip joints, from the pus of which they isolated a hemophilic organism conforming to the Pfeiffer bacillus. The infant died from meningitis.

Fraser,⁶ 1911, obtained a similar organism from suppurative arthritis of the knee, in a child of six months. The joint was opened and drained; complete recovery followed.

Nabarro and Stallman,¹¹ in 1923, obtained Pfeiffer's bacillus from three cases of purulent arthritis of the knee in children. One child died, the other two recovered.

In 1925 Harris⁸ records the finding of this bacillus in two cases of suppurative arthritis of the knee in children.

Influenzal meningitis and sepsis with abscess of the knee-joint in a child aged one and one-half years was reported by von Gavel⁷, in 1926.

In 1927 Taylor¹⁴ reported three cases of suppurative arthritis from which he isolated Pfeiffer's bacillus. The first case was that of an infant seven months of age and involved the right hip joint with caries of the head of the femur. Recovery eventually took place. The second case occurred in an eighteen months' infant, from the joint of whose left knee was aspirated semi-purulent fluid. This

fluid showed a hemophilic Gram-negative bacillus in pure culture, identical to case No. 1. The third case was that of an eight months' old infant with hot tender swelling of the lower part of the left thigh. The temperature, at this time, was 102 F. The X-ray showed no bony change. Four days later the swelling had extended to the knee. The joint was opened on the inner side, and several ounces of fairly yellow pus evacuated. The pus showed organisms similar to the first and second cases. The temperature reached a normal level after ten or twelve days. This case died from erysipelas.

In 1928 Vogelsang¹⁵ recorded a case of pyemia caused by the influenza bacillus and associated with acute meningitis and arthritis.

The causative organism in all of the above cases was a minute, Gram-negative, non-hemolytic, non-motile, hemoglobinophilic bacterium.

Relative to the members of the above group of hemoglobinophilic bacteria, Park, Williams and Krumwiede¹² state: "There are a number of bacilli which differ slightly in morphology and growth from the characteristics of the typical influenza bacillus. These were grouped under the name 'pseudo-influenza bacilli.' For example, the influenza-like bacilli found first in whooping-cough by Jochmann and others. Müller's trachoma bacillus, Koch-Weeks' bacilli, the bacilli found by Cohen in meningitis, and those reported occasionally in other parts of the body—all of them seem to be so closely related that they should be considered one species or, at the most, varieties of one species until more specific characteristics can be demonstrated."

Dible³ separated the hemophilic bacteria found in the throat into three groups: (a) hemolytic; (b) non-hemolytic but with a tendency to produce long leptothricoid threads; (c) non-hemolytic, strictly hemophilic, give uniform turbidity in fluid media, appear in films as minute bacilli or coccobacilli, produce sharply outlined lenticular colonies. He considers that only group (c) should be called *Bacillus influenzae* Pfeiffer.

Cohen² found that strains isolated from cases of meningitis were more toxic to animals, and that they tended to kill more frequently by septicemia than those isolated from the respiratory tract. He further stated that animals could be protected against meningeal strains by inoculation with such strains, but

that respiratory strains did not so protect. He used this as a basis for differentiation of species.

Evans⁵ working with twenty-seven strains from various sources (twenty from sputum, four from spinal fluid, two from pleural fluid and one from a nasal culture) found seven of the sputum strains, all of those from the spinal fluid, one from the pleural fluid and the one strain from the nasal culture to be virulent. There was no correlation between virulency and indol production in the sputum strains. The virulent strains from the other sources produced indol.

Yabe¹⁶ divided the *influenzae* bacilli into two groups by indol. He stated that it is impossible to divide them into groups by morphological and immunological study.

Maitland and Cameron⁹ examined a large number of strains as to agglutination and agglutinin-absorption. They considered that while a few strains showed common properties, in these respects, the great majority only reacted with their homologous sera.

Chesney¹ studied twelve strains from adults during the course of influenza. Cross-agglutination-absorption tests showed that four of them were identical. No evidence of relationship to strains obtained from another source was encountered. The author considered that the influenza bacillus is a representative of a heterogeneous group of hemophilic bacteria.

It may be seen from the citations above that there are no criteria at present to distinguish the hemophilic, non-hemolytic, minute, Gram-negative bacilli isolated from various sources.

REPORT OF CASE.—A child one year of age was first noticed not to crawl as usual on the 12th of September, 1929. Some swelling was noted just above the right knee. This was followed by swelling of the whole right leg. The leg was tender to manipulation, and to pressure above the knee. Several pockets of pus were present around the lower end of the femur and around the knee-joint. X-ray showed no bone lesion in the femur or knee. On operation pus was recovered from the joint. The blood showed: W. B. C. 36,000, polynuclears 80 per cent, lymphocytes 20 per cent. The temperature varied from 99 to 102 F. At operation the lower three inches of the femur appeared honey-combed. The patient was free from fever when he left the hospital on October 17, 1929.

From the pus from the several localities, a minute, hemophilic, non-hemolytic, Gram-negative bacillus was grown. It was the only organism present in the cultures, and was non-virulent for rabbits on intravenous injection. Smears from the pus showed a minute, Gram-negative bacillus. After a few subcultures, this organism died out, as did those of Taylor (loc. cit.) and Fraser (loc. cit.)

The similarity between the case herein reported and the third case in Taylor's report is quite remarkable.

As Taylor mentions, these cases show one common feature, that the patients (and the one now reported) were all children. Otherwise they fall into two groups: (a) suppurative arthritis, only; (b) suppurative arthritis with fatal pyemia and meningitis. In group (a) the patients recover from the infection and the joints recover their function.

From a perusal of the foregoing cases it is obviously impossible, by present methods, to differentiate morphologically, culturally and immunologically between the organisms isolated from these cases, and the *Bacillus influenzae Pfeiffer*.

My thanks are due to Dr. L. E. Sutton, Jr., for the clinical notes of the case reported herein.

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TULAREMIA IN VIRGINIA—1929.

By HARRY G. GRANT, M. D., Richmond, Va.
Epidemiologist, State Health Department.

In 1929 sixty-nine cases of tularemia were reported to this office. There were six deaths. This is a marked increase over 1928, in which year there were twenty-four cases reported,

with two deaths. The map shown below gives the locations of these cases:

On forty-two of the cases reported the practicing physicians very kindly filled out a detailed description and forwarded to us. An analysis of these case histories is shown below:

TULAREMIA CASES, 1929

Number of Cases Studied, 42

I. BY SEX:				
Males	21	Females	21	Total 42
II. BY COLOR:				
White	35	Colored	7	Total 42
III. BY AGE GROUPS:				
Under 20 years	4			
21-29	7			
30-39	12			
40-49	4			
50-59	10			
60-69	5			
Total	42			
IV. OCCUPATION:				
Farmer	10			
Housekeeper	18			
Foreman, telephone line gang	1			
Merchant	2			
School children	2			
Laborer	2			
Outside attendant, W. S. Hospital	1			
Servant	1			
Mail carrier	1			
Postal clerk	1			
Car builder	1			
Mechanic	1			
Garage man	1			
Total	42			
V. TEMPERATURE:				
		Range (highest):		
100	102	103	104	105
to	to	to	to	to
101.9	102.9	103.9	104.9	106
3	4	16	10	5
				4
				42
		Duration:		
		1 week		4
		2 weeks		5
		3 weeks		9
		4 weeks		4
		5 weeks		1
		Not stated		19
VI. Handled rabbits			40	
Handled squirrels			1*	
Bitten by tick			1	
Had not handled rabbits or squirrels, and had not been bitten by tick			1	
VII. Length of time before appearance of symptoms that patient had handled rabbits, squirrels or been bitten by tick:				
2 hours before			1	
1 day before			9	
2 days before			5	
3 days before			10	
4 days before			3	
5 days before			2	
6 days before			0	

7 days before -----	1
8-10 days before -----	3
14 days before -----	1
5 weeks before -----	1
Not stated -----	5
(Had not handled rabbits, squirrels, or been bitten by tick-----	1)

Total----- 42

*This patient also handled rabbits and is included in the 40 recorded above.

VIII. TITLE:	
1-40 -----	1†
1-80 -----	2
1-160 -----	7
1-180 -----	1
1-320 -----	4
1-640 -----	7
1-1240 -----	1
1-1280 -----	10
1-2560 -----	2
1-5120 -----	1
Negative -----	1
Unknown -----	2
None done -----	3

Total----- 42

†This case was classed as tularemia on account of clinical manifestations.

The histories of the reported cases show usually that the patient had been shooting rabbits or skinning rabbits, and had accidentally cut a finger. Following this were symptoms of a moderately severe infection and then the appearance of a local indolent ulcer. Glandular enlargement was usually present; severe headache and in a few cases skin eruptions were noted. Conjunctivitis was present in two cases. Broncho-pneumonia complicated several of the cases, as also did acute pleurisy.

This department wishes to thank the many physicians who forwarded the information from which this study is prepared.

Correspondence

Proposed Amendments to Constitution and By-Laws of Medical Society of Virginia.

Victoria, Va.,

August 14, 1930.

TO THE EDITOR:

I submit the following as proposed amendments to the Constitution and By-Laws of the Medical Society of Virginia to be voted on at the meeting of the Society in October of this year.

Very truly yours,

E. L. KENDIG.

PROPOSED AMENDMENT TO THE CONSTITUTION

New portions indicated by italics.

Have new Article incorporated in the Constitution, on page 3 just after Article VIII. as follows:

ARTICLE IX. *Trust Fund for Post-Graduate Clinical Education.*

The last five living ex-presidents shall constitute a special committee to collect and hold in trust the post-graduate fund of the Society.

Re-number following articles of Constitution, advancing numbers by one.

PROPOSED AMENDMENTS TO THE BY-LAWS

ARTICLE VIII. Near the end of page 23, add a new Section to be known as Section 8 to read as follows:

Section 8. The special committee of ex-presidents shall each year elect one of their members as chairman. The executive secretary shall act as secretary. The committee shall be active in securing subscriptions to the trust fund of the Society for post-graduate clinical education. This committee shall receive all contributions to this fund, contract with a good trust company for the investment of same in good securities, and each year pay to the department or committee in charge of clinical education the interest and other revenues accruing from the investment of this fund.

ARTICLE IX—DUES

Section 1. There shall be an annual assessment of \$5.00 upon each member. These dues for each calendar year shall be made in one payment and are payable before December 31st of each year. Members joining the Society after June 30th shall be assessed \$2.50 for the remainder of that fiscal year.

The principal of the trust fund for post-graduate clinical education shall remain in trust and the interest and other revenues accruing from the investment of this fund shall be used by the department or committee in charge to help defray expenses of post-graduate clinical education. Members who have subscribed as much as \$250.00 to the Trust Fund for post-graduate clinical education shall thereafter be exempt from payment of annual dues.

President's Message

Lunch Meeting for Secretaries of Local Societies.

At the last meeting of the Medical Society of Virginia our House of Delegates decided to try out a plan for post-graduate education which would be of service to every member of the Society who desired to make use of it. To put this plan into effect the Department of Clinical Education was established and various forms of post-graduate work have been tried.

As President of the Medical Society of Virginia it is my duty not only to help put over this program, but also to look at it from all sides and criticize it in a constructive way. The first thing that I had to investigate was what form of clinical education already existed within the state, and what possibility there was of making use of the already existing facilities to benefit the largest number of members. I discovered that excellent programs were being put on by local or group societies, but that our membership as a whole had no way of knowing what these programs were. It was just another case of the waste of good material on account of lack of cooperation. The local societies are all glad to have visitors from the outside take part in their meetings, but visitors have generally no way of knowing what the programs are.

The first step towards obtaining this needed

cooperation is to get the officers of our local societies into closer touch, especially is this true in regard to the secretaries who generally hold office for a considerable number of years, and who frequently are really the active officers of the societies. If we can only get hearty, continued cooperation between the secretaries of the local societies and the Secretary of the Medical Society of Virginia, we will open the way for furnishing our whole membership with the facilities for clinical education, which are now enjoyed by the few.

I am, therefore, again calling the attention of the local secretaries to the plan which Miss Edwards has suggested for getting them together, in order to secure this needed cooperation,—a luncheon to be held on Wednesday, October 22nd. Every secretary of a county or group society should be present at this meeting, at which time it may be thought expedient to establish a permanent organization, as a mid-year meeting may possibly be found desirable in the future.

Miss Edwards will write a personal letter to the secretaries inviting them to this meeting, but I feel it is wise to give them warning ahead of time, as I believe that a great deal of good should come from this organization.

Program for House of Delegates.

The other day I received a letter asking that I would try to arrange the program of the Medical Society of Virginia so that the members of the House of Delegates would be able to attend more of the scientific meetings. This has always been the purpose of the Medical Society of Virginia, which has attempted to get through its business before the scientific meetings of the Society. But business seems to have increased, and the meetings have been in conflict. I feel, however, that we might be able to finish the meetings of the House of Delegates more promptly if its members would

get the business which they want considered into concise form and have it put down on paper, preferably in type. This applies especially to the reports of committees, delegates, etc. If these are arranged well in advance, it is almost certain that they can be cut down without really detracting from their contents.

Another thing which always helps is getting to meetings promptly, and I can assure you that I will be on time, and will call the meetings to order on time.

CHARLES R. GRANDY, M. D.,
President, Medical Society of Virginia.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Continuation Education for Practitioners.

During these summer months, plans have been developing and work is being outlined for the coming Fall and Winter by the Department of Clinical Education.

Some valuable information has been gained during the past months which will be utilized in the future.

Most notable among the lessons learned have been the following:

First, that the most instructive and acceptable meetings have embraced CLINICAL FEATURES:

Second, that in addition to the papers by local practitioners, the addition of at least one or two practiced teachers to the program made the meetings more interesting and attracted larger audiences:

Third, that an afternoon and an evening session were more satisfactory and instructive;

Fourth, that a social session with a dinner or supper, paid for individually, was very popular:

Fifth, that there is a strong and growing demand for Clinical meetings that would feature, in addition to scientific papers by the local society members, demonstrations or dry clinics by selected local members or visiting teachers upon the following subjects:

(a) Newer remedies and procedures, demonstrating actual methods employed, especially in the treatment of children and adolescents;

(b) Demonstrative methods of personal prevention and protection of individuals from such diseases as diphtheria, typhoid, tuberculosis, etc.;

(c) Clinical exhibition of some of these newer methods in patients showing the different stages of immunization, especially in children;

(d) The importance at each meeting of clinically demonstrating some new phase of obstetrical practice, or some of the newer and better methods of pre-natal and post-natal care of patients;

(e) The increasing necessity for studying didactically and clinically at each meeting the

local diseases prevailing at that season in the immediate section; and

(f) Whenever possible, the importance of devoting at least a one or two hour period to the study and treatment of one or more of the diseases of childhood:

Sixth, that there is an increase of interest in personal health examinations; and,

Seventh, that the generally increasing interest in continuation education for practitioners will soon demand a full two-day clinical and scientific meeting in at least each of the ten Councilor districts during each year, in addition to the usual county and group meetings now being held.

These wishes of the profession will be met and fulfilled by the Society's educational agency, the Department of Clinical Education, as speedily and efficiently as possible. This Department desires to serve the membership in every way possible. Call upon it freely—it always cooperates, but never dictates.

Some Fine Suggestions

The appended letter just received is much appreciated and is printed in full, for it is as practical as it is suggestive and shows a splendid spirit of cooperation in professional progress:

I am going to write you about the clinics the Medical Society, through the Department of Clinical Education, together with the State Medical Schools, is holding over the state. In my contact with some of the medical profession, I find that a number of them would be glad to have some help on the practise of preventive medicine.

Do you not think it would be a good thing for you to make a place on the program for having clinics showing the doctors taking your courses just what the Schick test looks like and just how it is performed? Would it not also be a good thing to give toxin-antitoxin to a group of children several days before to show the doctors just what types of reactions you get from toxin-antitoxin? The few bad effects there have been from several lots of toxin-antitoxin should be explained to the doctors so they can answer any criticisms along these lines. The importance of the doctors giving toxin-antitoxin to all the children among their clientele before they are a year old and the reasons for not giving them toxin-antitoxin before they are six months old should be carefully explained.

The great advantage to the individual, as well as to the community, in vaccinating children against smallpox in the early months of life should also be discussed. As you know, a young child gets a much less severe reaction from smallpox vaccination than

an adult and then they are protected against smallpox, and any subsequent vaccination they have to bring their immunity up will cause very little local or general reaction. Along this line the technique of the Leake method of vaccination should be shown the doctors and the importance of leaving the point of vaccination uncovered emphasized.

In addition to the above mentioned subjects, the health examination ought to be taken up and discussed and put into practice in the local clinic. One important thing to be brought out at this time would be what is a deviation from the normal and what advice or treatment are you going to give a man who has this or that deviation. It is my impression that the doctors are really more at a loss on the subject of advice than they are on the subject of actually making the health examination.

This letter is necessarily brief and many other things would come up in actually working out these two ideas—the idea of the protection of the individual by different forms of vaccination, and the periodic health examination to determine danger signs before the individual himself is conscious of the approaching condition.

Yours sincerely,

FRED. J. WAMPLER, M. D.,
Professor of Preventive Medicine,
Medical College of Virginia.

Aug. 13, 1930.

Scheduled Meetings

—On *Saturday, September 20th*, the Clinch Valley Medical Society, Dr. J. B. Wolfe, Coeburn, President, will hold its Fall meeting at Norton, Va.

—On *Tuesday, September 30th*, beginning at 2:00 P. M., a scientific and clinical meeting will be held at the time of the dedication of the new Medical Arts Building in Petersburg, under the auspices of the Post-Graduate Medical Society, Dr. Joel Crawford, Yale, President.

—On *October 2nd, 3rd, and 4th*, the University of Virginia will give a course of Post-Graduate clinics, along the lines followed in the past.

—On *Tuesday, November 18th*, beginning at 2:00 P. M., a clinical and scientific meeting will be held at Burkeville with Dr. W. H. Venable, Superintendent and Medical Director of the Piedmont Sanatorium, and the Post-Graduate Medical Society, cooperating.

Information

All members of the State Society are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Acting Executive Secretary, Mr. George W. Eutsler, P. O. Box 707, University, Va., or to the Chairman of the Department of Clinical Education, 5 East Franklin Street, Richmond, Va.

Miscellaneous

Practical Rules for Mental Health.

1. Neither run away from emotions nor yet fight them. It is like guiding spirited horses—you guide, they obey, not their own impulses, but your will.

2. Be efficient in what you do. In short, do not drive your tasks with a sledge hammer. There is a better, less fatiguing way. Find out how easily you can do things well, and take pride in such skill.

3. Do one thing at a time.

4. Make clean-cut practical decisions. Finally, decisions must be valued, not as irrevocable oaths or unretractable contracts, but as mere decisions, subject to change in the face of new facts or additional knowledge.

5. Do not accept hurry as a necessary part of modern life. Quality of work, not quantity, spells success, and quality is destroyed by hurry.

6. The worst enemy of efficiency, as well as the best ally of nervousness, is worry. Worry is a complete circle of inefficient thought whirling about a pivot of fear. To avoid it, consider first whether the problem at hand is actually *your* business. If it is *not*, turn to something that is. If it *is* your business, decide next whether it be your business *now*.

7. Keep work, play, rest, and exercise in their proper relative proportions; not only in the space of decades, but year by year, month by month, week by week, and day by day. Such a life absorbs emergencies without strain.

8. Shun the New England conscience.

9. Energy is often wasted by a peculiar process which many people seem to think necessary before they can do anything, especially anything that promises to be difficult. When a decision has been reached, when something has to be done, *waste no time in mobilizing extra energy, just do it.*

10. Lastly, to avoid breaks in character, breaks between your ideals and your everyday actions, recognize that your problem is fundamentally the same as every one's else, no matter what your particular job may be. Do not criticize your part in the play; study it, understand it, and then *play* it, sick or well, rich or poor, with *faith*, with *courage*, and with proper *grace*.

From Burnham: "The Normal Mind."

Mind and Body—One and Inseparable.

Man is neither wholly Body nor wholly Mind—he is both—one and inseparable.

The Etiology of Diseases is neither wholly Physical nor wholly Mental—it is both—one and inseparable.

The Course of Diseases is neither wholly Physical nor wholly Mental—it is both—one and inseparable.

The Termination of Diseases is neither wholly Physical nor wholly Mental—it is both—one and inseparable.

Therefore—Treatment of Diseases is neither wholly Physical nor wholly Mental—it is both—one and inseparable.

The Physical or Chemical treatment not only helps the Body, but also the Mind. The Mental or Psychical treatment not only soothes the Mind, but also the Body.

The Doctor must not only be a Physiologist, but also a Psychologist.

The lack of this knowledge or not putting such knowledge in practice feeds the so-called irregulars or quacks. They are our children. We are their fathers.

In Practice—"Think ye upon these things."

J. E. RAWLS, M. D., F. A. C. S., Suffolk, Va.

Proceedings of Societies

The Patrick-Henry Medical Society

Held its regular quarterly meeting at Patrick Springs Hotel, July 12, 1930. After a delightful dinner at the Hotel dining room, the meeting was called to order by the President, Dr. W. C. Akers, of Stuart. The following delegates were appointed to the State Society:

Patrick County: Dr. J. T. Shelburne, delegate, and Dr. W. C. Akers, alternate.

Henry County: Dr. C. W. Thomas, delegate, and Dr. G. B. Dudley, alternate.

Following the business meeting, Dr. J. T. McKinney, of Roanoke, gave a very delightful and instructive lecture on "X-Ray Diagnosis of Diseases of the Gastro-Intestinal Tract." Dr. J. M. Shackelford gave a very interesting talk on "The Acute Abdomen." Both topics were well discussed by all members present, and much benefit derived therefrom.

Dr. W. N. Thompson, of Stuart, is secretary of this society.

The Augusta County Medical Association

Held its annual social and business meeting

at the Western State Hospital, Staunton, August 6th, under the presidency of Dr. Richard P. Bell, of Staunton. There was an attendance of twenty-three. The following were elected officers for the coming year: President, Dr. John E. Womack, Staunton; vice-presidents, Drs. Q. H. Barney, Mt. Sidney, Charles W. Putney, Staunton, and William Lueders, Jr., Staunton. Drs. T. M. Parkins, Staunton, and W. F. Hartman, Staunton, R. F. D., were re-elected treasurer and secretary, respectively. Dr. C. P. Obenschain, Staunton, was elected censor. Drs. R. P. Bell and J. S. DeJarnette were named delegate and alternate, respectively, to the Norfolk meeting of the State Society.

Dr. J. S. DeJarnette, Superintendent of the Hospital, gave a clinic on Sterilization, following which the members were guests at supper.

The Medical Society of Northern Virginia

Held its regular meeting at Front Royal, Va., on August 13th. There was a good attendance, including a number of visitors. Among those on the program were: Dr. H. Grant Preston, of Harrisonburg, Drs. L. T. Stoneburner and E. L. Flanagan, of Richmond, and Dr. H. I. Pifer, of Winchester.

Dr. F. C. Downey, of Edinburg, and Dr. J. E. Harris, of Winchester, are president and secretary, respectively, of this society.

The Loudoun County Medical Society,

At its regular meeting on August 12th, endorsed the Director of Health's wish to establish a sanitation officer in Loudoun, and enumerated twelve points to be discussed at the State Society meeting in October.

Dr. G. F. Simpson, Purcellville, is president, and Dr. W. O. Bailey, Leesburg, secretary of this Society.

Northern Neck Medical Society.

Notice has just reached us that at the semi-annual meeting of this Society, October 31, 1929, Dr. George H. Steuart, Ottoman, Va., was elected president, and Dr. R. E. Booker, Lottsburg, Va., secretary.

Woman's Auxiliary, to the Medical Society of Va.

Study Programs for County Auxiliaries.

Beginning with the May issue of the MONTHLY, we have been publishing the STUDY

PROGRAMS FOR COUNTY AUXILIARIES which were prepared for the Woman's Auxiliary to the American Medical Association. These programs especially consider PHYSICAL DEFECTS IN CHILDREN. The various subjects discussed to date are *Nose and Throat, Ears, Eyes, Teeth, Underweight and Malnutrition, and What is Being Done by Health Agencies, Official and Unofficial, for the Discovery of Physical Defects in Children*. The following is a continuation of the discussion:

(Continued from page 265)

EXAMPLES OF STATE HEALTH DEPARTMENT EFFORTS TO GET CORRECTION OF DIS- COVERED DEFECTS

Experience has shown that only a small percentage of such defects are corrected by parents when their attention is called to them. Health departments, therefore, are forced to exercise their ingenuity to find effective means of inducing parents to meet this responsibility; and when that fails, to interest the child himself in getting his handicaps removed.

The Five, Six and Nine Point Child campaign is proving successful in a number of states.

The Missouri State Health Department's Six and Nine-Point Child work is getting excellent results. Dr. Irl Brown Krause, Director of the Division of Child Hygiene, about three years ago, called upon all state organizations interested in child welfare to cooperate with him in a state-wide Six-Point Child Campaign. Representatives of all such organizations were called to Jefferson City for a conference, at which the following plan was worked out:

There was, as rapidly as possible, to be organized in each county a county Six-Point Child committee, made up of the representatives of all the organizations interested in child welfare which functioned in the county.

This committee was to secure a chairman in each school district whose duty would be to get in touch with the school authorities and school teachers, and arrange early in the school year for the examination of all school children by competent physicians, approved by the county medical society. Defects found were to be reported to parents. Toward the end of the school year every child who was found to have normal eyes, ears, nose and

throat, teeth, weight and posture, or who, having had defects in any of these six points, had had the defects corrected, was to receive as a part of the May Day Child Health day celebration, a six-point button from the health department.

In addition to this the child who had a birth certificate received a blue ribbon, and if he had been immunized against smallpox and diphtheria he received a red ribbon to attach to the button, which then classified him as a nine-point child.

At the conference it was the general opinion that great results were not to be expected the first year, but all agreed that if the work got a good start in fifteen or twenty counties they ought to be quite satisfied.

The following shows how the simple device of the button and badge has produced results:

MISSOURI'S TOTALS FOR PAST THREE YEARS		
1927—6 point children	-----	10,768
9 point children	-----	4,675
Total	-----	15,443
1928—6 point children	-----	12,694
9 point children	-----	11,576
Total	-----	24,270
1929—6 point children	-----	15,830
9 point children	-----	16,247
Total	-----	31,077

From Dr. Krause we have the following: "The Jefferson City schools are a splendid example of what can be accomplished through intensive work. There are about two thousand children in the public elementary schools and in 1927 only sixty-six of them reached the Six-Point requirement and not a single child met the Nine-Point requirements. In 1929, 503 children met the Six-Point requirement and 209 won the Nine-Point badge. I think that is about as startling an improvement as we have to show in any of the communities.

"Naturally, the work is very much more effective if followed up by trained public health nurses, and we have found from past experience, where we are able to have the local physicians and dentists to conduct the examinations under the leadership of some local club such as the Woman's Auxiliary to the Medical Society, the Parent-Teacher Associations, etc., that much interest has been aroused for permanent health work and frequently the program has resulted in a request for a whole time health worker. We furnish examination record forms and health literature free to any community desiring it and we feel that it is an

activity which can be promoted by the local clubs even though there are no paid health workers in that community."

The following illustrates vividly the difference in results in Missouri communities where there was intensive work done by local agencies, and communities where no such work was done:

WHERE SIX-POINT WORK WAS PROMOTED

County	No. Children Examined	Per Cent Defects Corrected
Boone -----	4,881	21%
Jackson -----	7,857	32%
St. Francois -----	6,578	18%
Mississippi -----	3,828	19%
Scott -----	3,753	14½ %
Cole -----	4,890	31%

Average Correction..... 22½ %

WHERE NO GREAT EFFORT WAS MADE TO PROMOTE 6 PT. WORK

St. Louis -----	3,827	6%
Dunklin -----	4,810	6½ %
New Madrid -----	2,264	8½ %
Pemiscot -----	2,961	2%
Buchanan -----	2,528	5%

Average..... 7%

Dr. Ennion G. Williams, State Health Commissioner of Virginia, reports:

We have been inspecting school children for nearly nine years, and the number of children inspected, the number of Five-Point children and the number of corrections have steadily increased each year.

In 1927 we started more actively the Five-Point Program with the following results:

Session Ending June:	1927	1928	1929
Children Enrolled -----	447,945	508,098	571,013
Children Inspected -----	403,423	478,498	422,239
Corrections:			
Vision -----	7,188	9,909	10,242
Hearing -----	1,851	2,159	2,360
Teeth -----	40,124	61,540	66,219
Throats -----	4,051	8,391	10,761
Weight -----	22,921	35,260	46,584
Total -----	76,135	117,259	136,166
Five-Pointers -----	7%	14%	21%

Dr. J. C. Montgomery, Director of Child Hygiene of Kansas State Board of Health tells us: "The Nine-Point Program was started in 1927. Last year over 5,000 'Nine-Point Children' were reported. In one county (Cherokee) in the past two years they have held annual picnics, and all 'Nine-Pointers' are given a big time. Last year 1,500 were guests

of Cherokee County. In our eleven county units the securing of 'Nine-Point' children is one of the important activities of the department. A number of counties reported from 25 to 200 in 1928."

The Kansas Button is a large sunflower with nine of the yellow petals named: Vision, hearing, teeth, throat, weight, posture, toxin—anti-toxin, smallpox vaccination, and typhoid immunization.

The Truth About Medicine

In addition to the articles enumerated in our letter of June 28, the following have been accepted:

Aces Laboratory, Inc.
 Mercurochrome Suppositories Aces.
 Cutter Laboratory
 Diphtheria Toxoid—Cutter, 45 c.c. vial.
 Hoffmann-LaRoche, Inc.
 Synthetic Thyroxine
 Ampuls Synthetic Thyroxine—Roche, 1.1 c.c.
 Solution Synthetic Thyroxine—Roche.
 Tablets Synthetic Thyroxine—Roche, 1 mg.
 Winthrop Chemical Co.
 Mesurol
 Ampules Emulsion Mesurol, 20 per cent, 1 c.c.
 Theocin
 Tablets Theocin, 1½ grains.

New and Non-official Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Alphanaphthol.—The actions of alphanaphthol resemble those of betanaphthol. The literature is rather contradictory and unsatisfactory as to the relative toxicity, but it is probably of a similar order. Alphanaphthol is employed locally as an antiseptic and germicide; it is not generally used internally.

Alpha Napheco.—Compound Solution of Alphanaphthol.—Alpha Napheco contains alphanaphthol 10 Gm., glycerin, 32 Gm., soft soap, 23.8 Gm., water to make 100 Gm. When tested against *B. typhosus* by the U. S. Hygienic Laboratory method, alphanaphco has a phenol coefficient of 1.46. Carrel Laboratories, Redondo, Calif.

Pyridium.—Phenylazo-2-6-diamino-pyridine monohydrochloride.—The monohydrochloride of an azo dye of the pyridine series, phenylazo diamino pyridine. Pyridium has marked penetrating power and is non-toxic and non-irritant in therapeutic dosage. It is rapidly eliminated through the urinary tract. It is bactericidal in aqueous solution against staphylococcus, streptococcus, gonococcus, *B. coli* and even *B. diphtheriae*. It is proposed for use in gonorrheal infections, urinary diseases, and in colon bacillus and mixed infections. The drug is supplied in the form of Aqueous Solution of Pyridium, 1 per cent; Pyridium Ointment, 10 per cent, and Pyridium Tablets, 0.1 Gm. Merck & Co., Inc., New York.

Pollen Antigens—National—Liquids obtained by extracting the dried pollen of plants with a 0.5 per cent sodium chloride solution containing sodium bi-

carbonate and phenol. For a statement of actions and uses, see Allergic Protein Preparations, New and Non-official Remedies, 1930, p. 23. Pollen Antigens—National are marketed in packages of one 5 c.c. vial containing respectively 50, 100 and 250 units per c.c. The following products have been accepted: Ragweed Pollen Antigen—National and Timothy Pollen Antigen—National. National Drug Co., Philadelphia. (Jour. A. M. A., July 5, 1930, p. 35).

Mead's 5 D Cod Liver Oil with Viosterol.—A brand of cod liver oil with viosterol 5 D (N. N. R.) For a discussion of the actions and uses of cod liver oil with viosterol 5 D, see New and Non-official Remedies 1930, p. 257. Mead Johnson & Co., Evansville, Ind.

Siomine. — Hexamethylenetetramine tetraiodide. Siomine contains 78.5 per cent of iodine. Siomine is decomposed in the intestine with formation of hexamethylenetetramine and iodide, the rate of absorption and excretion being essentially the same as that of inorganic iodides. It therefore produces the effects of ordinary iodides from which it differs only in that it can be administered in solid form. No therapeutic claims are made for the hexamethylenetetramine component of siomine, this being present only to render the substance insoluble. The dosage is the same as that of potassium iodide. Siomine is supplied in the form of capsules containing respectively $\frac{1}{2}$ grain, 1 grain, 2 grains, and 5 grains. Pitman-Moore Co., Indianapolis.

Ephedrine Nasal Jelly—Maltbie.—It is composed of ephedrine sulphate.—N. N. R. 1 per cent, menthol 0.25 per cent and sodium benzoate 0.5 per cent in a glycerite of tragacanth base. For a discussion of the actions and uses of ephedrine sulphate, see New and Non-official Remedies, 1930, p. 167. Maltbie Chemical Co., Newark, N. J.

Ephedrine Hydrochloride—P. D. & Co.—A brand of ephedrine hydrochloride—N. N. R. For a discussion of the actions and uses of ephedrine hydrochloride see New and Non-official Remedies 1930, p. 167. Ephedrine hydrochloride—P. D. & Co., is supplied in the form of capsules containing respectively $\frac{3}{8}$ grain and $\frac{1}{4}$ grain. Parke, Davis & Co., Detroit.

Elixir of Pyramidon.—Each 4 c.c. (1 fluidrachm) contains pyramidon (New and Non-official Remedies, 1930, p. 314) 0.162 Gm. ($2\frac{1}{2}$ grains) in a menstruum containing alcohol, 20 per cent. H. A. Metz Laboratories, Inc., New York.

Pyramidon Tablets $1\frac{1}{2}$ grains.—Each tablet contains pyramidon (New and Non-official Remedies 1930, p. 314), $1\frac{1}{2}$ grains. H. A. Metz Laboratories, Inc., New York.

Thio-Bismol.—Sodium bismuth thioglycollate. A salt formed by the interaction of sodium thioglycollate and bismuth hydroxide containing approximately 38 per cent of bismuth. Thiobismol is proposed as a means of obtaining the systemic effects of bismuth in the treatment of syphilis (Bismuth Compounds, New and Non-official Remedies, 1930, p. 94); it is a water soluble compound, readily absorbable, and produces relatively little local injury. The product is supplied in the form of ampules containing 0.2 gm. of thio-bismol. Parke, Davis & Co., Detroit. (Jour. A. M. A., July 19, 1930, p. 200).

Accepted Devices for Physical Therapy

The following have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

The Davis Inhalator.—The Davis Inhalator (Bulard-Davis, Inc., New York), is a portable apparatus

designed to assist physicians in the administration of oxygen or a mixture of oxygen and 5 per cent carbon dioxide in resuscitation in various forms of asphyxia. Compressed gases are contained in tanks and by a reducing valve may be delivered at the desired pressure through a breathing bag and mask as demanded by artificial or natural breathing of the patient. The apparatus meets the requirements for inhalators of approved standard and incorporates devices which make for flexibility, adaptability and safety. (Jour. A. M. A., July 19, 1930, p. 200).

Viosterol versus Cod Liver Oil.—Cod liver oil and viosterol solutions are by no means to be regarded as therapeutically equivalent. Cod liver oil cannot be replaced by the newer irradiated products except so far as the antirachitic factor vitamin D is concerned. Cod liver oil is also a carrier of the indispensable vitamin A. Furthermore, cod liver oil contains digestible and assimilable fats. (Jour. A. M. A., January 4, 1930, p. 53).

Book Announcements

Doctors and Specialists. A Medical Revue with a Prologue and a Good Many Scenes. By MORRIS FISHBEIN, M. D., Editor of the Journal of the American Medical Association and of Hygeia, the Health Magazine. With illustrations by DAN LAYMAN. The Bobbs-Merrill Company. Indianapolis. 1930. 12mo. of 118 pages. Cloth. Price, \$1.00.

This Medical Revue is written by Dr. Fishbein in his inimitable style. It is full of chuckles for every doctor with a sense of humor—the ones to whom the author has dedicated this volume.

Beginning with the "Old-time Practitioner," the various stories take up first the "Modern Medico" and then the various specialists, including those in the hospitals, and some cultists. The book is cleverly illustrated.

We highly recommend it as a good "chaser of the blues" after a hard day's work. Any doctor or layman familiar with the frailties of the medical profession will get an evening of pleasure from the reading of this little book.

The 92 Elements. Their Names, Atomic Numbers, Symbols, Atomic Weights, Melting Points and Years of Discovery. Circular No. 92 B. 4-page pamphlet. Copyright 1930 by P. C. Kullman Company, New York. Copies may be had gratis upon request to publisher.

Early Pueblo Ruins in the Piedra District Southwestern Colorado. By FRANK H. H. ROBERTS, Jr. Smithsonian Institution. Bureau of American Ethnology. Bulletin 96. Illustrated. United States Government Printing Office. Washington, D. C. 1930. Octavo of 190 pages. Paper. For sale by the Superintendent of Documents, Washington, D. C. Price 75 cents.

United Fruit Company. Medical Department. Eighteenth Annual Report. 1929. Illustrated. Made in United States of America. Octavo of 451 pages. Paper.

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Editorial

Costs of Medical Care.

One of the most important questions now before the country is the economic and financial situation. Probably no time can be more propitious than the present for consideration of the economic interests of the practitioner of medicine. The committee investigating the costs of medical care has studied various parts of the general question; more from the standpoint of the patient. This is a proper approach and line of study because practitioners must feel a keen interest in every part of the costs of medical care of the sick. Particularly interesting, however, to practitioners of medicine should be the recent statement, issued by a special committee of private practitioners, from the general committee, elaborating the relation of the question of medical costs to the private practitioners of the country. Their statement aims to give information to practitioners as to the scope and aim of the inquiry. This committee of private practitioners presents their position in the following language:

"It was clearly recognized by all present at the Spring meeting that the committee has undertaken a program of studies which in its scope goes far beyond that part of the cost of medical care which physicians provide. The expense of several other kinds of service now looms large in the total cost of many illnesses. In addition, special emphasis was given at the meeting to the question of the adequacy of the various services available in a community. Finally, the committee adopted a statement of three fundamental principles proposed by the

Chairman, which should go a long way toward reassuring those who have been apprehensive regarding the nature of the committee's ultimate recommendations.

I

"The committee is interested in far more than the physician's bill, which, in many instances, is considerably less than half the total cost of illness. Hospital care, nursing, dentistry, laboratory examinations, and medicines often involve considerable expense, as is clearly shown by several of the committee's studies which are now being completed or have already been reported upon. In one middle-western county recently surveyed, the expenditures for various kinds of medicines constituted over one-third of the total expense for medical care, and were 20 per cent greater than the costs of physicians' services. It is also becoming apparent that a great deal of money is being spent for useless medicines and for various irregular forms of treatment which do the patient no good or which may result in positive harm.

"In order to indicate clearly the broad scope of the committee's work, it was decided at the Spring meeting to make a slight change in its name. The word 'cost' is to be changed to 'costs.' The complete name of the committee, with sub-title, will henceforth be 'The Committee on the Costs of Medical Care—Organized to Study the Economic Aspects of the Prevention and the Care of Sickness, including the Adequacy, Availability and Compensation of the Persons and Agencies Concerned.'

"One vital problem before this committee, declared a prominent physician member, at the recent meeting, is the determination of what is reasonably adequate care. In many cases of obscure disorders and serious illness, expensive facilities are essential. Presumably, there must be available in the community well-trained general practitioners, certain specialists, dentists, nurses, hospitals and health agencies,—trained and well equipped to do their part in providing all the care that the individual may need. A plan of the executive committee, to conduct a study to determine standards of adequate medical care, under the general direction of some well-known competent physician and with the assistance of a committee of fifteen or twenty other physicians,

was heartily endorsed at the meeting of the general committee.

"The aim of the committee is to study the problem described by Dr. Olin West, the Secretary of the American Medical Association, as the one great outstanding problem before the medical profession today. This he says is that involved in 'the delivery of adequate, scientific medical care to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life.' The committee is endeavoring to establish a foundation of facts which have an important bearing upon this problem. On the basis of these facts, it will propose recommendations for the provision of adequate and efficient therapeutic and preventive service for all the people at a reasonable cost to the individual, which, at the same time, will provide physicians, dentists, nurses, hospitals and other agents assurance of adequate return. This is not a new statement of aim. Recent discussion, however, has given new emphasis to certain aspects of it. There are important items in the cost of sickness other than the physician's bill; and the adequacy of the service provided must be considered. The program of studies is a comprehensive one. It deals with questions of supply, demand, distribution and costs of all kinds of services, both preventive and curative; the relation of these costs to other expenses; the return accruing to the practitioners and various agents furnishing medical services; and especially will it seek to determine what standards of adequacy may reasonably be expected.

II

"Dr. Ray Lyman Wilbur, Chairman of the committee, proposed at the meeting May 2nd a statement of three fundamental principles for the consideration of the committee. This statement was referred to each of four subcommittees which held sessions during the two day meeting. The entire committee, at its last session, May 3rd, adopted with a few verbal changes the three principles. These will be of special interest to the physicians and dentists. They follow:

"1. THE PERSONAL RELATION BETWEEN PHYSICIAN AND PATIENT MUST BE PRESERVED IN ANY EFFECTIVE SYSTEM OF MEDICAL SERVICE.

"Medical service is and doubtless, by its very

nature, must remain a distinctly personal service. Even in this age of standardized commodities for the table, ready-to-wear clothing, and interchangeable spare parts for all types of machines, there has been no plan suggested for the reduction of medical diagnosis and treatment to basic units which can be ordered from traveling salesmen or acquired through correspondence courses. The physician must see his patient and see him, in many cases, over an extended period of time if the diagnosis and treatment are to achieve the greatest possible accuracy and efficiency. There is no substitute for personal observation.

"Man is not a standardized machine and each individual reacts to the conditions of life in a manner in some respects unique. In the treatment of disease, this individual variation is a factor of great significance and can receive due consideration only when the practitioner has known the patient for a considerable time and maintains a personal relation with the patient.

"2. THE CONCEPT OF MEDICAL SERVICE OF THE COMMUNITY SHOULD INCLUDE A SYSTEMATIC AND INTENSIVE USE OF PREVENTIVE MEASURES IN PRIVATE PRACTICE AND EFFECTIVE SUPPORT OF PREVENTIVE MEASURES IN PUBLIC HEALTH WORK.

"The cost of adequate curative treatment is now high and may continue to increase as expensive procedures resulting from scientific progress become more widely used. Sickness, in addition, involves other personal and social costs, some of which cannot be measured in monetary terms.

"The outstanding achievements in scientific medicine have been made in the preventive rather than the curative field. Knowledge now available for the control of malaria, tuberculosis, smallpox, diphtheria, pellagra, typhoid fever, hookworm disease, and goiter, if effectively applied, would make unnecessary a considerable proportion of the present expense for the cure of sickness.

"3. THE MEDICAL SERVICE OF A COMMUNITY SHOULD INCLUDE THE NECESSARY FACILITIES FOR ADEQUATE DIAGNOSIS AND TREATMENT.

"From the standpoint of effective diagnosis, many diseases, such as tuberculosis, cannot be recognized promptly in their early stages without the aid of elaborate technical equipment. From the standpoint of adequate therapy, if

the best of modern technique is not immediately available, complete cures are either delayed or rendered impossible of attainment. To cite a specific illustration of the improvement of modern therapeutic procedures over those of ten years ago, the time required for treatment of fractures of the hip, and the percentage of permanent invalidity resulting from that injury have each been reduced by more than half.

"We cannot be content with anything except the best possible service that modern science can provide and it is therefore imperative that modern scientific equipment for the diagnosis and treatment of disease be available to the practitioners of medicine in every community."

Liver Extract in Secondary Anemia.

Every discussion of blood regeneration awakens interest. Whipple and associates,* in a recent article, draw attention to the effect of liver fraction in anemia due to hemorrhage. Favorable effect of liver feeding in pernicious anemia has been well established but there has been, as yet, no complete accord on the question as to whether or not there is a favorable influence produced in secondary anemia by the liver therapy. These workers have brought forward evidence to answer the question: Does liver therapy benefit human cases of secondary anemia? Considerable evidence has been presented for and against the question. The authors feel that the negative side has been supported by work in cases where there was an inadequate amount and duration of liver therapy. They feel that this conclusion was arrived at through the spectacular action of liver feeding in pernicious anemia, whereas favorable effects in cases of secondary anemia were less striking and possibly long delayed. They point out that pernicious anemia is a disease in which hemoglobin and related pigments are in great surplus; in which red cells are saturated with a maximum of hemoglobin; in which muscle hemoglobin is high in spite of anemia and inactivity and tends to lower muscle hemoglobin. Besides, the blood serum and body fluids contain an excess of pigments, as does the urine and feces, which partake of blood hemoglobin elements. One remembers Whipple's explanation of several years ago, relating to this question, in which it was suggested that these findings in

pernicious anemia result from faulty construction or lack of red cell stroma and not from red cell destruction. These workers feel that this explanation fits in with recent observations of spectacular regeneration of red cells in pernicious anemia after liver feeding. It is, in the light of this observation, assumed that the liver feeding supplies the missing element necessary for maturation of red cell stroma.

In secondary anemia, on the contrary, there is a deficit of hemoglobin pigment and related pigments. In other words, there is a lack of hemoglobin and, consequently, a relative excess of stroma; besides body pigments are subnormal in concentration; and pigment derivatives are wanting in excess amount unless cell destruction is in progress. This appears to denote an exhaustion of normal blood forming systems brought on by a lack of stimulus from a low state of blood hemoglobin. To interpret this condition is to say that the reserves of parent hemoglobin material, upon which new hemoglobin depends for fabrication, are exhausted or reduced. The part played by infection and intoxication in this process has been observed by these workers as they have observed the effects of these states in the new hemoglobin production in the normal hyperplastic bone marrow in dogs. They state that it has been proven beyond reasonable doubt that liver and kidney in the diet furnish the maximum supply of substances most suitable for new red cell and hemoglobin fabrication. Also, they observe in connection with the need of iron in secondary anemia, that the optimum intake of iron from salts and food has been established for the dog in experimental anemia as about 60 mg. iron, as metal, daily.

The Norfolk Meeting, October 21, 22, 23.

The president of the Medical Society of Virginia, Dr. Charles R. Grandy, is doing all possible to make the coming Norfolk meeting a success. Throughout the year he has been making a general pressure movement upon all with a view to making the time spent at the Norfolk meeting worth while. It is his hope that the membership may turn out in large numbers; that the papers presented will be of a high quality; that the discussion of the subjects of scientific interest may help to enlarge and quicken the knowledge of the participants

*Whipple and Associates, J. A. M. Sc., May, 1930, page 628.

and audience: that the clinics, exhibiting and elaborating a number of interesting medical and surgical patients, may serve to inform and interest those in attendance; that from the addresses of such distinguished speakers as Dr. William S. Thayer, of Baltimore, and Dr. David Lyman, of New Haven, Conn., our invited guests, the members of the Society will receive inspiration; and that from the interchange of views, renewal of friendships and social contacts of the members, the Society will be welded together and made stronger for the great purposes of its organization and aims.

In these times of economic distress and depression, it is hoped that the physicians of the State will gather at the annual convention in large numbers, determined to enter in conference with a strong purpose and resolve to do what they can to stand and give a helping hand where it may be needed and to make a greater effort to improve and enlighten one another to the better discharge of the duties of the profession. Due to the state-wide business depression and serious financial losses, suffered from the agricultural and crop failures consequent upon the unprecedented and prolonged drought, physicians of the State will be called upon, as probably no other professional class, to bear a part. This situation, it is hoped, will not deter members from attending the Norfolk meeting, for those in attendance may derive a sort of renewed strength from the scientific discussions, personal social contacts and from the addresses to be heard there.

It is very important that each component society send its full quota of delegates.

Medicine in Virginia in the Seventeenth Century.

The favorable reception accorded this book by those who have reviewed it bespeaks for it the success it deserves. Physicians and laymen may equally find in its pages an abounding interest. It is hoped that the author and publishers may but receive the approbation and approval that a widespread sale of the work will give. Every doctor in Virginia should have this book in his home and library.

News Notes

Prepare to March on Norfolk!

Dr. W. L. Harris, general chairman of the Local Committee, in charge of our approaching meeting in Norfolk, October 21st-23rd, reports that we will have good scientific and commercial exhibits. The program also promises a number of papers on interesting subjects. The full Program will be published in our October issue. In the meantime, hotel reservations should be made so as to save last minute worries. The following rates are given by the various hotels:

Hotel Rates

MONTICELLO HOTEL:

Single room without bath, \$2.50 to \$3.50 per day; with bath, \$3.50 to \$6.00 per day.

Double room, without bath, \$4.50 to \$6.00 per day (two persons); with bath, \$6.00 to \$8.00 per day.

SOUTHLAND:

Single room with bath, \$3.00, \$3.50 and \$4.00.

Without bath, single rooms \$2.00, \$2.25 and \$2.50.

ATLANTIC HOTEL:

Room with bath, \$3.00 for one in room; \$2.25 two in room.

Room without bath, \$2.00 single; \$1.75 two in room with two beds.

FAIRFAX:

Single person, room with bath, \$2.00 to \$4.00.

Two in room, \$3.50 to \$6.00, with bath.

LORRAINE:

Room with bath, single person, \$3.00; two in room with bath, \$5.00.

Without bath, single person, \$2.00; two in room, \$2.50 each.

The social side of the program includes a golf tournament to be played on Tuesday, October 21st, beginning at 10 A. M.; entertainments for the visiting ladies by the Woman's Auxiliary of the local society: a buffet supper at the Norfolk Country Club on Wednesday evening, at 10 P. M., for the doctors and ladies accompanying them; and an oyster roast given by Dr. Grandy at Cape Henry, for members only, on Thursday afternoon, following the close of the meeting.

Make your plans to attend and bring the ladies of your family with you.

Alumni Meeting and Dinner.

Among the dinner meetings scheduled at time of the State Society meeting in Norfolk, in October, is a get-together meeting of the Alumni of the Medical College of Virginia. Information about this may be obtained from the secretary of the Alumni Association, Dr. C. L. Outland, at Alumni headquarters, Medical College of Virginia, Richmond.

Heads Ethics and Judiciary Committee.

Dr. James K. Hall, Richmond, Va., has been appointed by Dr. Grandy as a member for two years and chairman of the Committee on Ethics and Judiciary of the State Society, to fill the vacancy caused by the death of Dr. Garnett Nelson, of Richmond.

Married.

Dr. Lewis Winston Angle, of the class of '26, Medical College of Virginia, and Miss Margaret Anne Carothers, at Rockville, Md., October 8, 1929. They are now at home at 729 Nebraska Avenue, Kansas City, Mo. Dr. Angle was for a time a member of the house staff of Johnston-Willis Hospital, Richmond, Va.

Dr. Charles Lee Quaintance, Queens Village, N. Y., and Miss Elizabeth Mary Coffey, New York, N. Y., the middle of August. Dr. Quaintance is an alumnus of the University of Virginia, Department of Medicine, class of '21.

The Southwestern Virginia Medical Society

Is to hold its semi-annual meeting in Christiansburg, Va., September 23rd and 24th, under the presidency of Dr. J. Coleman Motley, of Abingdon. Dr. E. G. Gill, Roanoke, is secretary. Dr. William F. Drewry, Director of the Bureau of Mental Hygiene, State Department of Public Welfare, Richmond, Va., is the invited guest, and will speak on "Mental Hygiene." Members listed for papers and discussions on the preliminary program are: Drs. D. B. Stuart, Dublin; R. F. Thornhill, Pulaski; R. H. Woolling, Pulaski; J. K. Caldwell, Galax; S. H. Nixon, Christiansburg; R. M. DeHart, Floyd; G. A. Wright, Marion; W. C. Caudill, Pearisburg; H. B. Stone, Roanoke; and J. J. Giesen, Radford.

The Southside Virginia Medical Association

Will hold its regular quarterly meeting at Courtland, Va., September 9th. Dr. J. A. Grizzard, Drewryville, is president, and Dr. R. L. Raiford, Franklin, secretary.

State Care of Crippled Children in Virginia.

A new program of State care for crippled children in Virginia is to be carried through jointly by the State departments of public health and public welfare. Each department has received from the 1930 Legislature a grant of \$25,000 for the work. Whenever possible, children are to be treated in their homes through the cooperation of local physicians; the more serious cases will be sent to hospitals as far as the appropriation will permit.

Medical Service in Federal Prisons.

On May 13, 1930, the President approved an Act of Congress which authorized the United States Public Health Service to provide medical service in Federal penal and correctional institutions under the Department of Justice. Henceforth the medical and psychiatric work in Federal prisons will be supervised and furnished by personnel of that Service. This new legislation is considered important in the field of penology and mental hygiene, and is part of the program for improving the conditions in Federal prisons, and also an effort to promote uniformity in the medical work of the Federal Government.

Dr. C. W. Trexler,

Of the University of Virginia, Department of Medicine, '26, is now employed as the Medical Superintendent of the Mahelona Memorial Hospital, Kealia, Hawaii. At the recent meeting of the Territorial Medical Association in Honolulu, Dr. Trexler represented the Kauai Medical Society. He and Dr. Forrest J. Pinkerton, the outgoing President, were the two Councillors elected by the Territorial Medical Association to serve for the next three years.

Dr. F. H. Crawford,

Of Mt. Sidney, Va., who recently returned from abroad, where he spent some time specializing in the eye, ear, nose, throat, and bronchoscopy, at the University of Vienna, Austria, has opened a suite of offices at 9 North Central Avenue, Staunton, Va.

P. A. Surgeon R. A. Vonderlehr,

Of the U. S. Public Health Service, formerly of Richmond, Va., on July 24th, was directed to proceed from Hamburg, Germany, to Bonn and Frankfurt, Germany, then to London, England, and such places in Great Britain, and Ireland as may be necessary, for the purpose of discussing with the directors of research laboratories the latest methods in venereal disease control measures; then proceed to Paris, France, and report to the Medical Officer in Supervisory Charge of Public Health activities in Europe for duty.

Programs Prepared by the United States Commission for the Two Hundredth Anniversary of the Birth of George Washington.

Plans of the United States George Washington Bicentennial Commission for the Celebration of the Two Hundredth Anniversary of

the Birth of George Washington in 1932 provide for the active participation of women's organizations throughout the country. Complete programs depicting the life, character and achievements of George Washington have been prepared for use during 1931 and 1932. They appear in pamphlet form with a list of authorities for reference for each program.

All communications relative to these programs should be addressed to the George Washington Bicentennial Commission, Washington Building, Washington, D. C.

The American Proctologic Society,

At its annual meeting recently held in Buffalo, N. Y., elected Dr. Dudley Smith, of San Francisco, president; Dr. Samuel E. Newman, of St. Louis, vice-president; Dr. Emmett H. Terrell, of Richmond, Va., councillor; and Dr. Curtice Rosser, of Dallas, Texas, secretary-treasurer (re-elected). It was voted to hold the next annual meeting in Philadelphia, just prior to the 1931 A. M. A. annual session.

Dr. Howard L. Mitchell,

Lexington, Va., returned the first of August from a vacation of six weeks in Europe. Among other places visited, he attended the Passion Play in Oberammergau.

Graduate Fortnight.

Attention is again called to the Third Annual Graduate Fortnight of the New York Academy of Medicine, to be held in New York City, October 20 to 31, 1930. Information and clinical assignments may be obtained from the Academy at 2 East 103rd Street, New York. The profession generally is invited to attend. No fees will be charged for registration or for attendance at any of the clinics or meetings on the program.

Dr. Henry W. Decker,

Richmond, Va., has been appointed to succeed the late Dr. S. B. Moon on the Medical staff of the Virginia Home for Incurables, of this city.

The Inter-State Post-Graduate Medical Association of North America

Will hold its International Assembly in the Municipal Auditorium at Minneapolis, Minn., October 20th-24th, inclusive. Dr. William D. Haggard, of Nashville, Tenn., is President of the Association. The program includes a large number of prominent medical men.

Information may be had from the secretary, Dr. Edwin Henes, Jr., 445 Milwaukee St., Milwaukee, Wis.

Hospital Gets New Charter.

The Loudoun Hospital, Leesburg, has obtained a new charter in which the name has been changed to the Loudoun County Hospital, Incorporated. Among some of the changes made in the new arrangement is that the active members of the corporation shall consist of three persons, the Judge of the Circuit Court of Loudoun County, the chairman of the Board of Supervisors, and the chairman of the School Board of Loudoun County, and their successors in office.

The officers and directors for the first year are: T. U. Dudley, president; Dr. H. P. Gibson and Dr. G. F. Simpson, vice-presidents; H. C. Littlejohn, treasurer, and W. A. Metzger, secretary.

The following doctors are members of the Board of Directors: Drs. J. A. Gibson, G. F. Simpson, and H. P. Gibson.

\$19,250 Paid as Compensation to 39 Injured Children.

Thirty-nine children injured while illegally employed were given last year a total compensation of \$19,250, reports the Industrial Commission of Wisconsin. This sum included the increased compensation granted by State law to children who are employed in violation of the State's child labor law.

Dr. Joseph T. McKinney,

Roanoke, Va., announces removal of his X-ray laboratory and offices to Suite 603 Medical Arts Building, that city, where he has installed complete new modern X-ray equipment for X-ray diagnosis and therapy.

The Virginia Hospital Association

Held its annual meeting at Virginia Beach, Va., July 8th, under the presidency of Dr. J. E. Harris, of Winchester. There was a good program and an attendance of some thirty-six members, representing eighteen hospitals. Dr. Knowlton T. Redfield, of Jefferson Hospital, Roanoke, was elected president for the coming year, and Mr. John Beavers, superintendent of Riverside Hospital, Newport News, secretary-treasurer. The next meeting will be held in Richmond, the second Tuesday in July, 1931.

Dr. D. Hunter Marrow,

Who spends the winter and spring seasons at Daytona Beach, Fla., is now at his Virginia home in Boynton, Va.

Civil Service Positions.

The U. S. Civil Service Commission, Washington, D. C., announces open competitive examinations for the following positions:

Biologist, applications to be on file at above address not later than September 17th;

Senior medical officer (pathology) and associate medical officer (pathology), applications to be on file not later than September 24th;

Chief nurse and head nurse (Indian Service), graduate nurse, graduate nurse, visiting duty, and graduate nurse, junior grade (various services), applications to be on file, as above, not later than December 30th.

Dr. J. Hugh Bailey,

Formerly of Danville, Va., who has been in Montana for several years, announces that his address is now Kalispell, that state.

Dr. R. H. Rowe

And family, of Exeter, Va., spent their summer vacation of several weeks at their former home, Hickory, N. C.

Dr. Theodore M. Trousdale,

Who practiced for a time at Richlands, Va., has recently completed special work as assistant resident and later resident surgeon of the eye, ear, nose and throat service at the Long Island College Hospital in Brooklyn, N. Y. Following this he spent some time at the post-graduate schools of the New York Eye and Ear Infirmary and the New York Post-Graduate Medical School and Hospital, before locating at 545 South Street, Peekskill, N. Y., for the practice of this special work.

Demonstrations on Treatment of Lesions of the Bone.

On September 15th, 16th and 17th, there will be lantern-slide demonstrations, with four lanterns and screens, on the Diagnosis and Treatment of Diseases and Tumors of Bone, in the ballroom of Belvedere Hotel, Baltimore, Md. The number attending these demonstrations is limited to 800, so that radiologists, surgeons, pathologists, internists and others interested should communicate at once with Miss Maude Walker, Secretary to Dr. J. C. Bloodgood, Johns Hopkins Hospital, Baltimore, for details.

Surgeon L. L. Williams, Jr.,

Of the U. S. Public Health Service, has been relieved from duty at Richmond, Va., and

assigned to duty at Washington, D. C., effective September 1st.

Dr. Henry Clay Smith,

Formerly of Crewe, Va., but for several years located at Williamson, W. Va., has just located at Boyce, Va.

Dr. Rienhoff Receives Award.

At the recent meeting of the American Association for the Study of Goiter at Seattle, Washington, Dr. William F. Rienhoff, Jr., of Johns Hopkins University, Baltimore, Md., received the annual award of \$300 for the best essay dealing with the goiter problem. Doctors O. P. Kimball, of Cleveland, Ohio, and E. P. and D. R. McCullagh, Cleveland Clinical Foundation, Cleveland, Ohio, and Robert P. Ball, of the University of Louisville, received honorable mention.

Ensworth-Central-Northwestern Medical College Alumni.

The annual meeting and banquet of the Ensworth-Central-Northwestern Alumni Association will be held in St. Joseph, Mo., the home of the alma mater, during the week of the Kansas City Fall Clinical Conference, from October 6 to 10, 1930. All alumni of these three Missouri colleges are urged to attend.

For information, address the secretary, Dr. Charles Wood Fassett, Box 38, Glendale, Calif.

Mental Disorders and the Public Health.

In a recent address, Surgeon-General H. S. Cumming, of the U. S. Public Health Service, pointed out that the public health administrator of the present day is called upon from time to time to make new adjustments and new adaptations to meet the ever changing conditions of modern life.

He emphasized the necessity for directing efforts toward the prevention of mental disorders, toward the conservation of mental health, and toward the amelioration of adverse mental states which is apparent by the ever-increasing number of persons with mental disorders seeking aid in public institutions. During the fifty-year period from 1880 to 1930, the rate of persons under care in State hospitals for the insane alone had increased from 81 to more than 220 per each 100,000 of the general population. The rate had almost

trebled, but the actual number of cases under care had increased to almost six times the number under care in 1880. The rapid expansion in public facilities for the care of the group comprising one form of mental illness—namely, the group for whom the public demands segregation—has entailed an enormous outlay of public funds for buildings and equipment, and required yearly increases in expenditures for the care of inmates. This economic loss is of vital interest to legislators and practical administrators who are equally desirous of reaching an adequate solution of the problem. An intangible, but none the less important, aspect of such a situation is the economic loss to the community through invaliding so many people in the prime of life, and the suffering of individuals whose families are not infrequently rendered impoverished by such diseases.

The problem of the so-called insanities is only one of the several problems, for other mental disorders also claim attention. These include the mentally defective or feeble-minded of which it is estimated there are about 500,000 in the United States today.

The Annual Report of Gill Memorial Eye, Ear and Throat Hospital,

Roanoke, Va., for the year ending June 30, 1930, shows that there were 747 patients admitted to the hospital during the year and 10,454 patients treated in the Out-Patient Department. The operations were divided as follows:

Forty eye operations; nineteen mastoid operations; 194 endoscopic operations; 494 throat operations; and there were nineteen cases of foreign bodies (in the air and food passages), 182 specimens of blood were taken for Wassermann and fourteen of these were four plus positive. All Departments of the hospital had an increase in volume of work over the previous year.

The annual Post-Graduate Course was given from April 7 to 12, 1930, and was attended by physicians from twelve states.

The medical staff is composed of Drs. E. G. Gill, Booker Lee, and B. N. Pittinger.

An Examining Room on Wheels.

A railroad car equipped with X-ray and other apparatus to be used for physical examination of employees engaged in train operation and applicants for this service has just been built by The Milwaukee Road and has

been placed in service immediately under the supervision of the railroad's Surgical Department. It will be used over the entire system to supplement the work now performed by the road's physicians and surgeons.

Dr. A. R. Metz, Chief Surgeon for the Road, conceived the idea of the car as a means of promoting greater efficiency among employees whose physical condition is an all-essential factor in the safe operation of trains.

The exterior of the car resembles a modern steel sleeping car. The interior is divided into a series of compartments provided with the most modern equipment available necessary for complete physical examination. A first aid room is also included. The examination car will give the employees now in service an opportunity to learn of any early physical defects which can be corrected, thus keeping them in the best of health possible and at the same time prolonging their period of usefulness.

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Don't write, come and see Dr. T. C. Harris, Centralia, Va. (*Adv.*)

For Sale Cheap—

One Aloe Ultra-Violet Ray Lamp used only few months, also miscellaneous instruments and books belonging to the late Dr. Nevitte. Inquire of Mrs. R. R. Nevitte, Temperanceville, Va. (*Adv.*)

Technician Desires Position.

Technician with two years' college training and practical experience in clinical laboratory work desires position in hospital. Address "No. 245," care this journal. (*Adv.*)

Obituary Record

Dr. Charles P. Rexrode.

Announcement has just reached us of the death of Dr. Rexrode, at his home, Mt. Solon, Va., July 2, 1929. He was born at Crab-bottom, Va., in 1871 and graduated from the Baltimore Medical College in 1896. Dr. Rexrode had been a member of the Medical Society of Virginia for the past twenty years.

Dr. Francis Beattie Hutton, Jr.,

Captain, U. S. Army, M. C., retired, died at his home in Abingdon, Va., June 29th. He was thirty-nine years of age and a graduate of the Medical College of Virginia, class of '14. Dr. Hutton served during the World War.

Dr. John T. Sharp,

Charleston, W. Va., died of heart disease, June 29th. He was fifty-eight years of age and graduated from the former University College of Medicine, Richmond, Va., in 1901.

Dr. H. F. Whisler,

Grottoes, Va., died June 14th. He was sixty-three years of age.

Resolutions on Death of Dr. John W. Dillard, Who Died in Lynchburg, Va., on May 17th:

We, as individuals and members of the Lynchburg and Campbell County Medical Society, feel keenly our loss in the passing of Dr. John W. Dillard. Dr. Dillard labored long and diligently in Lynchburg and Virginia, and served faithfully, as physician and surgeon, the people of the city and the state, greatly endearing himself to his patients.

In his going a great loss has been sustained by the Medical Society, the hospitals and the people of Lynchburg as a whole.

We wish to express our appreciation of the work and the personality of Dr. Dillard and to extend our sympathy to his widow and the members of his family in their bereavement.

It is our desire that these resolutions be spread upon the minutes of the Society, and that copies be sent to the VIRGINIA MEDICAL MONTHLY and the family.

July, 1930

CHAS. P. M. SHEFFEY,
DON PRESTON PETERS,
A. W. TERRELL,

Committee.

Resolutions on Death of Dr. Robert P. Kelly, Who Died in Lynchburg, Va., on June 10th:

At a recent meeting of the Lynchburg and Campbell County Medical Society, the following resolutions were passed:

We, the members of the Lynchburg and Campbell County Medical Society, fully realizing the great loss we have sustained at the death of Dr. Robert Patton Kelly, wish to take this means of publicly expressing our regrets at his untimely passing.

For many years Dr. Kelly occupied a high and honorable place in the medical profession. Always striving to keep and maintain the principles of the medical profession on the loftiest plane, and always with the welfare of his community at heart. We, as members of the Lynchburg and Campbell County Medical Society, having worked with Dr. Kelly, fully appreciate his great worth and will ever be mindful of our loss. Therefore, be it

RESOLVED, That in the death of Dr. Robert Patton Kelly, the Medical profession at large has lost an able physician and the community a loyal citizen.

We wish to take this method of expressing our sympathy to his family and loved ones. Therefore, be it

RESOLVED, That copies of this resolution be sent to the family of Dr. Robert Patton Kelly, and that it be published in the VIRGINIA MEDICAL MONTHLY.

July, 1930.

D. P. SCOTT,
J. W. DEVINE,
F. O. PLUNKETT,

Committee.

Resolutions on Death of Mrs. Lightfoot.

The Medical and Surgical Staff of the Retreat for the Sick, Richmond, Va., adopted the following resolutions on the recent death of Mrs. John B. Lightfoot, President of the Lady Board of Managers of the Hospital:

In the death of Mrs. John B. Lightfoot, the Retreat for the Sick Hospital and the community at large has lost a valuable friend and an ardent worker in the true spirit of humanity. During her associations with the Retreat Hospital, covering a period of forty years, she gave of herself, always with untiring efforts, and served as President of the Lady Board of Managers for the past seven years. She enjoyed the esteem and confidence of a large circle of friends and hospital associates, supporting its needs at all times in a skillful and unselfish manner. The Medical and Surgical Staff of the Retreat for the Sick feels that in the loss of the wise counsel, genial personality, fair-mindedness and abiding loyalty of Mrs. Lightfoot, it is deprived of one of its most valuable assets; and so,

WHEREAS, It has pleased an all-wise Providence to take from our midst our distinguished friend and co-worker; therefore,

BE IT RESOLVED by the Staff of the Retreat for the Sick Hospital,

That we tender to the bereaved family our heartfelt sympathy in this hour of distress; and be it further resolved,

That a copy of these resolutions be transmitted to them, that they be spread upon the minutes and recorded at the hospital, and that they be printed in the VIRGINIA MEDICAL MONTHLY as a mark of esteem and affection.

JOSEPH BEAR, *Chairman*,
J. W. HENSON,
R. E. MITCHELL.



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Virginia Medical Monthly

OFFICIAL ORGAN OF THE MED'CAL SOCIETY OF VIRGINIA

Vol. 57, No. 7.
WHOLE No. 940.

RICHMOND, VA., OCTOBER, 1930

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20 CENTS A COPY

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RICHMOND, VA., OCTOBER, 1930

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A SYMPOSIUM ON ABDOMINAL PAIN.

By DRS. RINKER, RAWLS, HARRELL and REDWOOD.

MEDICAL CAUSES OF ABDOMINAL PAIN.*

By F. C. RINKER, M. D., Norfolk, Va.

Owing to the integrating action of spinal cord centers, we have learned that pain impulses coming from one part of the body may be referred to another location entirely remote from the point of origin. The more we study abdominal pain and its signs, the more are we confronted with the masquerade that goes on in the human organism.

Pain in the abdomen does not always mean disease in the abdomen. Too frequently a diagnosis of "acute abdomen" or "surgical abdomen" is made when the true cause of the symptoms and signs of the case is located in some organ widely separated from the abdominal organs.

A case suffering from abdominal pain imposes upon his physician two responsibilities:

1. Is the condition due to disease within the abdomen or to disease extra-abdominal?
2. Is the disease one requiring surgery or is it amenable to medical means alone?

Let us consider some of the common medical causes of abdominal pain:

Pneumonia is probably the most frequent. At times the first manifestation of a basal lung lesion is acute pain in the abdomen often associated with nausea and vomiting. This group of symptoms may suggest acute appendicitis, rupture of a peptic ulcer, cholecystitis with or without stones, and at times has been diagnosed acute pancreatitis.

All hospitals have seen cases operated upon for some supposedly acute abdominal condition only to find afterwards that the patient had a hidden or undetermined pneumonia. This error in diagnosis is astoundingly frequent according to statistics from the Boston City Hospital, published by Adams and Berger in 1924. They found that out of a series of 145 cases admitted to the hospital with a

diagnosis of acute appendicitis, twenty-five had pneumonia only.

Pericarditis may refer the pain to the upper abdomen before a friction rub can be heard.

Rupture of an *aortic aneurysm* may give as its first symptom pain in the abdomen with nausea.

Probably the greatest cases of mimicry exhibited by human ills are those cases of *coronary occlusion* so frequently found among the ages from fifty years upwards, too often diagnosed "acute indigestion," and many times treated as such to the detriment of the patient's life. We should be ever mindful that the term "acute indigestion" is a dangerous one and probably never justified as a diagnosis. The symptoms of coronary disease are usually associated with abdominal pain, nausea, and vomiting. In such cases, the absence of abdominal tenderness, the drop in blood pressure, the presence frequently of a cardiac friction rub, the profound shock, etc., should lead us to hesitate before making a diagnosis of a so-called acute abdomen. The history of such patients is of particular importance since many of them will give a history of past attacks of anginoid pains.

Uremia may simulate almost any condition. Cases have been prepared for operation for intestinal obstruction who were suffering from uremia. Conversely, a diagnosis of uremia is sometimes arrived at on urinary findings plus coma, when the true condition requires surgical intervention for some acute abdominal disease of serious nature.

Tonsillitis has been the cause of abdominal pain suggesting intra-abdominal disease.

Lead poisoning may simulate intestinal obstruction, or many other acute abdominal conditions. The history, the finding of the characteristic blue line on the gums, and the typical changes in the red blood cells in such cases will aid in the differential diagnosis.

There are certain skin conditions which, at times, cause painful abdomens, such as *erythema multiforme* and *herpes zoster*.

*Read as part of a symposium on Abdominal Pain, before the Medical Section of the Norfolk County Medical Society, Norfolk, Va., January 20, 1930.

The symptoms of some of the *contagious diseases* are often associated with abdominal pain, nausea and vomiting. Notable among these are scarlet fever, typhoid fever, mumps and smallpox.

Pott's disease and tabes dorsalis, along with other neurological conditions will be considered under the neurological division of this symposium.

In conclusion, I wish to say that it is, of course, possible for extra-abdominal conditions to exist with intra-abdominal pathology requiring surgery. On the other hand, it is most serious to consider acute abdominal pain an acute surgical condition until extra-abdominal causes have been satisfactorily eliminated.

The purpose of this paper has been to introduce the symposium and at the same time to point out some of the pitfalls met with in the diagnosis of cases having abdominal pain.

Sarah Leigh Clinic.

INTRA-ABDOMINAL PATHOLOGY PRODUCING PAIN.*

By JULIAN L. RAWLS, M. D., Norfolk, Va.

Three conditions bring suffering humanity to the physician: Discomfort, dysfunction, and deformity. Man will endure untold disturbances of function, will allow hideous deformities to go uncorrected, but discomfort sends him early to the doctor for ease. Pain, then, is a biological factor in the conservation of the species or a God-given thing for the preservation of the race, if you are a Fundamentalist. Pain is a subjective symptom and to be properly evaluated one should know the racial characteristic and the individual's reaction to pain, since it varies widely with races and with men. If in doubt as to the severity of one's pain, Libman's method of making firm pressure upon the tip of the styloid process, and watching the patient's reaction may be tried, since it constitutes a fairly reliable index of pain sensitivity.

It is a rather difficult matter to discuss the conditions arising in the abdomen producing pain without taking up the other symptoms accompanying it which enable us to locate the pathology which causes it. Head has shown that there are areas of definite cutaneous tenderness associated with the disease of certain

abdominal organs and that this tenderness is due to the connections between the sympathetic system supplying the diseased viscus and the distribution of the cutaneous nerves arising from the same segment of the cord. Billings states: "The contraction of unstriated muscle is the most frequent cause of abdominal pain and is always referred along the midline of the abdomen . . . while renal colic is distinctly unilateral in reference."

Let us consider either the spontaneous or traumatic rupture of the viscera of the abdomen. In the rupture of a hollow viscus there is an intense pain, not definitely localized, with absolute rigidity of the abdominal muscles and a fixation of the entire body. The patient remains in the position he was when the rupture occurred. The temperature and pulse remain normal for several hours but there is a very rapid increase in the leucocyte count. In the rupture of solid viscus the pain is not so great and there is more tendency for it to be localized. The rigidity is less pronounced and the patient is not so fixed. It is possible to have a small amount of bleeding, either from a ruptured corpus luteum follicle or from an injury to the liver or spleen, without producing very much pain.

The symptoms of chronic liver or gall-bladder infections are more of dysfunction than of discomfort. They usually come under the head of digestive disturbances. When pain is present it may be located over the liver but frequently is in the back under the right shoulder blade. The pain of biliary colic is rather characteristic; it is sharp and cutting in character, is located in the upper right quadrant of the abdomen with little tendency to radiate to distant points, although it is sometimes referred to the right shoulder blade, and the patient frequently rolls from side to side in an effort to obtain relief. The pain of liver abscess and hydatid cyst is dull and indefinite and is not a prominent symptom in either of these conditions.

The pain of ruptured gastric and duodenal ulcer has already been considered. There is a rather characteristic sequence of pain in the unruptured variety. In the gastric ulcer the pain is sharper and is produced by the ingestion of food. It gradually wears off as the stomach empties. In the duodenal ulcer the sequence is pain-food-relief-pain. In other words the pain appears four or five hours af-

*Read as part of a symposium on Abdominal Pain before the Medical Section of the Norfolk County Medical Society, Norfolk, Va., January 20, 1930.

ter meals and is relieved by the taking of food or alkali. There is also a periodicity in the attacks of duodenal ulcer, consisting of exacerbations in the spring and fall and remissions in the summer and winter. In gastric ulcer there may be vomiting of blood and in duodenal ulcer there may be blood in the stools. In gastric and duodenal ulcers that rupture slowly, in which the peritoneum holds and there is no soiling of the general abdominal cavity, the pain is almost constant and there is no food or alkali relief. In addition there is a definite point of localized tenderness over the site of the ulcer. Pain of gastric carcinoma is a variable quantity. If it is grafted on the site of an old chronic ulcer it does not differ very materially from the patient's former pain, except that it is more constant and is dull and boring in character. Frequently, however, a gastric cancer appears without any history of previous gastric disturbance and these patients may present themselves with a rather rapid loss of weight and strength, with no history of pain or indigestion and an X-ray will reveal an advanced carcinoma. A gastric analysis is a big help in differentiating between ulcer and cancer, since ulcers of the stomach usually have a hyperacidity and gastric carcinoma frequently has a diminution in hydrochloric acid with the presence of lactic acid. X-ray findings are of utmost importance. The filling defects of duodenal and gastric ulcer or gastric carcinoma are rather characteristic and are a tremendous aid in diagnosis. In one of the largest clinics in the United States it is claimed that a filling defect smaller than a dime in the gastric mucosa is almost certainly a benign lesion while if the defect is larger than a quarter it is most likely malignant. They consider defects between these two to be questionable, the diagnosis to be determined by other data or the findings at operation. The perforation of a hollow viscus should give a pneumo-peritoneum on X-ray findings.

The pain of pancreatic calculi very closely resembles that of biliary calculi and frequently cannot be distinguished from it. The pain of acute pancreatitis is severe and fulminating in character, located in the epigastrium, accompanied by severe shock and muscular rigidity. The pain of chronic pancreatitis is almost identical with that of chronic cholecystitis. It extends over a long period and there may be

tenderness over the head of the pancreas. Pain is given as the first symptom in 88 per cent of pancreatic carcinoma. At first it consists of indefinite digestive disturbances, later on there is an intermittent pain in the epigastrium which increases in frequency and severity and may be referred either to the right or left shoulder blade depending upon whether the head or tail of the pancreas is the site of the growth. It is worse at night and frequently can be relieved by assuming the erect posture. The gastric secretion shows an absence of hydrochloric acid. There is a progressively deepening jaundice and a distended gall-bladder is often palpable. In the beginning there may be constipation, later on the stools are rather bulky and filled with undigested fat.

Rupture of the spleen is accompanied by the usual severe pain of peritoneal soiling plus the symptom of hemorrhage if there is much blood loss. Here, too, the pain is frequently referred to the left shoulder blade. There have been reported several interesting cases of intracapsular splenic hemorrhage, following injury, accompanied with upper left abdominal pain and tenderness which may continue for several days, when the spleen may be blown to pieces by the accumulated force of the hemorrhage. Then the patient is suddenly in collapse with all the symptoms of hemorrhage and shock and at operation small pieces of the spleen may be found scattered about the abdomen. Abscess of the spleen is usually a secondary, metastatic, embolic process and is accompanied by chills, fevers, and sweats; with rigidity, rapid enlargement of the spleen and the usual localized pain that accompanies any inflammatory condition in the peritoneum. There is very little pain accompanying the slowly enlarging spleen of the various blood dyscrasias, and such as it is, is usually due to the weight of the organ and the pull on its peritoneal attachments.

The pain of acute appendicitis is also fairly characteristic. It starts either as a general abdominal discomfort or a vague pain around the umbilicus or in the epigastrium and is followed, in the majority of cases, by one or two attacks of vomiting. There is almost always an initial leucocytosis with increase in the polymorphonuclears. This may entirely disappear within forty-eight hours and the count return to normal. There is very little rise in

temperature and pulse rate; both may be normal. In from ten to eighteen hours the pain is localized over the site of the appendix and both pain and muscular rigidity have developed. We have to distinguish between acute appendicitis as outlined above and an acute gangrenous appendix, practically without inflammatory changes, so sudden is the onset due to a block in the appendicular blood supply. This condition is almost symptomless and, except for a very short period of initial pain, there is no further pain until the appendix has sloughed off and we have the symptoms of appendiceal abscess or of a beginning general peritonitis. I wish to take this opportunity to question the rather common practice of applying an ice-bag over the right lower quadrant of the abdomen with the first symptoms of appendiceal irritation and then waiting from twelve to thirty-six hours to see what the result will be. As far as I can see, it has no effect whatever on the appendicular inflammation. What it probably does is to relieve the cutaneous reflex pain over that area and the changes in the appendix go on with the patient and his doctor blissfully ignorant of the catastrophe that awaits them. Frequently, if you will remove the ice-bag long enough for the abdominal wall to thaw out, there is an immediate return of pain and the patient's hope that he will be able to "freeze it out" is simultaneously shattered. Speaking from the experience of many disastrous results, I can see no earthly benefit to be gained in waiting until the inflammation has spread beyond the appendix and we have to wait still further for the localization of an appendiceal abscess or we inadvisedly operate in the face of a beginning general peritonitis.

General peritonitis usually follows some other inflammatory condition in the abdomen and, when it does, there is an exaggeration of the symptoms already present. Occasionally, however, it originates as the result of some other infectious process elsewhere in the body, as, for instance, a streptococcic sore throat, a pneumonia or the pneumococcic peritonitis seen in young children in the poorer urban districts, usually occurring in young girls with a vaginal portal of entry. In all of these cases there is suddenly interposed the picture of a severe intra-abdominal catastrophe. The patient lies in bed with knees flexed, with marked rigidity

of the abdominal muscles, with severe pain, cutting in character, and there is usually rather persistent vomiting. The respiration is shallow and entirely costal. The patient grows progressively worse and death usually occurs in from five to seven days with the terminal stage of a general toxemia. Operation offers very little unless the patient has enough resistance to localize the infection.

Tubercular peritonitis of the adhesive type shows a rather marked rigidity, without any localized tenderness, with an afternoon rise of temperature and no leucocytosis. The pain is usually due to peristalsis in the adherent loops of small bowel. In the ascitic type there is very little pain and the diagnosis is made by the fact that it is one of the few things that gives an accumulation of fluid in adolescents without kidney or cardiac involvement.

There is nothing much more puzzling than the indefinite pain of enlarged mesenteric glands when they cannot be palpated. If the process has gone on to calcification they should cast a shadow on the X-ray plate but by that time they are no longer causing pain.

The pain of intestinal obstruction is only moderately severe at first. It is cramping in character, intermittent, accompanied by nausea and vomiting and, after the lower bowel is emptied, by constipation. In intussusception, seen most frequently in young children and the aged, there are bowel movements of bloody mucus. As the obstruction progresses, there is increase in the severity and frequency of the colicky pain, there is distention and some tenderness but seldom rigidity. Within the first twenty-four hours there is often visible peristalsis, which disappears later. There is an absence of fever. The vomiting becomes persistent and the tongue is red and dry. There is a decrease in the blood chlorides with an increase in blood urea and an increase in the carbon dioxide combining power in the blood plasma. If unrelieved, the picture is one of increasing toxemia with subnormal temperature, rapid, feeble pulse and death.

Mattison states: "In embolism of the mesenteric vessels there is sudden intense pain, sudden marked rise in pulse rate, sudden shock, blood stained diarrhoea and usually a history of some form of infection, such as endocarditis."

The pain of paralytic ileus, post-operative,

is usually over-balanced by the pain incident to the operative procedure and we are frequently at a loss to determine whether we should treat patients expectantly or whether we should subject them to an enterostomy. Dr. Willard Bartlett and Dr. W. J. Mayo have recently suggested that they be given a spinal anesthesia. If, following this there is a voluntary expulsion of gas and feces by the bowel within fifteen minutes, the patient should be treated expectantly. That is by gastric lavage, glucose, saline, posture and so forth. However, if there is no relief in fifteen minutes, an enterostomy should be performed before the effects of the spinal anesthesia wear off.

Holden, of Portland, Ore., has recently reported a method of treating intestinal obstruction which has caused a remarkable reduction in death rate in his hands and that has further been confirmed by Hayden and Orr, of Kansas City, and Sweek and Patterson, of Phoenix, Ariz. Briefly, the method is this: a long incision is made, the patient eviscerated of bowel and the point of obstruction located. A tube, or glass rod is introduced into the bowel through a stab wound at the point of obstruction and held in place by a purse string suture. Then, beginning at the duodenum, the bowel is stripped through the fingers and its contents expressed through the tube into a bucket, the empty bowel being returned to the abdomen. After it has been emptied, Sweek and Patterson fill the bowel with hypertonic salt solution and this is emptied in the same manner. The obstruction is then dealt with and the abdomen closed. The patient is given a teaspoonful of dry salt by mouth and one or two glasses of water to wash it down. It is claimed that the bowels move normally in from one to three hours and that there is usually a complete absence of post-operative nausea. Holden reports one hundred and thirty-five cases with an operative mortality of 19.2 per cent. Sweek and Patterson report six cases without a death.

The pain of carcinoma of the large bowel is often a late symptom and it is not unusual for the patient to come in with a complete obstruction from an annular carcinoma without his ever having had sufficient pain to cause him to consult a physician, but he often gives a history of blood mucus in his stools for some time.

The pain of diverticulitis of the bowel is the usual pain of peritoneal irritation, localized in the region in which the diverticulum occurs accompanied by fever and leucocytosis. If concretions drop into a diverticulum without producing inflammatory changes, the pain may be colicky in character until the concretion has been returned to the lumen of the bowel. The inflammation may go on to abscess formation with the usual tenderness, pain and rigidity of intra-peritoneal abscess from other causes.

There are five pathological conditions arising in the pelvic organs in women in which pain is one of the predominating symptoms. In acute salpingitis there is pain over the lower abdomen with rigidity and localized tenderness, fever, leucocytosis and other evidences of an acute inflammatory condition. There is nothing particularly characteristic about the pain except that a pelvic examination increases it and any attempt to move the pelvic viscera markedly intensifies it. Also, if the condition is subsiding, following a pelvic examination there may be a flare-up of all the symptoms.

In ruptured corpus luteum follicle with hemorrhage in the peritoneal cavity, the symptoms may be mild or severe, depending upon the amount of hemorrhage and the individual's reaction to pain. At times there is severe shock and the patient shows all the evidences of marked hemorrhage. However, the actual amount of blood lost is usually rather small.

Tubal abortion is generally accompanied by sharp, cramping pain which closely resembles the pain of uterine abortion followed by the evidences of intra-peritoneal soiling—pain, tenderness, rigidity, and so forth.

In ruptured ectopic pregnancy, if the rupture is in the uterine end of the tube, there is generally severe pain and shock, fainting and nausea, followed shortly by the sign of rapidly progressing hemorrhage—blanching of the skin, air hunger, restlessness, and so forth. If the rupture occurs in the fimbriated end of the tube, the symptoms are nothing like so pronounced and may easily be mistaken for tubal abortion. In both ruptured ectopic and tubal abortion there are usually cramp-like labor pains with uterine bleeding.

The fifth cause of pelvic pain is an ovarian cyst with a twisted pedicle. This is often quite a puzzling condition. The patient when seen

in the attack apparently has severe pain. There is a moderate amount of rigidity and later a slight rise in temperature and leucocytosis. She often gives a history of several similar attacks, not so severe, which cleared up after a few hours. This condition is also frequently accompanied by uterine bleeding and, where the patient is not too stout, a tumor mass may be felt.

Ordinarily in pelvic tumors, pain is not the symptom which brings the patient to the physician.

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ABDOMINAL PAIN ORIGINATING IN THE URINARY TRACT.*

By B. E. HARRELL, M. D., Norfolk, Va.

Abdominal pain originating in the urinary tract is often confusing in its character and in its distribution. The classical picture of pain over the kidney region radiating to the groin is helpful when present, but too often this picture is not realized and the urinary disease simulates some other abdominal condition. Pain alone is not to be relied upon since disease of the urinary tract may produce the pain usually regarded as characteristic of any other of the abdominal organs. There is probably no area in the abdomen where so great error in diagnosis occurs as in the urinary tract.

According to Braasch, the subjective symptoms of lesions involving the urinary tract may so closely simulate those occurring with lesions in adjacent organs that they frequently are of no practical diagnostic value.

Kelly, Braasch and Lowsley all report that of the right-sided renal and ureteral lesions coming to them, 50 to 65 per cent have been subjected to one or more futile operations on adjacent organs, while the condition of the kidney and ureter has not been recognized. Bransford Lewis mentions a case that had undergone five major operations for relief of symptoms due to nephropotosis.

Pain has been called the language of disease and should serve to attract attention, but diagnosis will require much more than a history of pain.

The kidney has certain characteristics in common with other abdominal organs. It can be cut, torn, or sutured without production of

pain; also, it is insensitive to heat and cold. A stone may lie in the kidney or a chronic infection be present for years without causing pain. The capsule and the pelvis of the kidney, however, are acutely sensitive to any change in tension. There is a question as to the relative importance of these two structures in pain production, and probably both play a part in most instances, though abnormality of and about the capsule may cause pain unassociated with any disturbance of the pelvis or ureter.

Bevan and others believe most kidney pains to be due to stretching of the capsule. Keyes reports relief of renal pain from splitting the capsule. Watson and Bevan report relief from nephrotomy. Bevan reports a case of severe renal pain with a stone in the ureter which was immediately relieved by nephrotomy. The passage of this stone down the ureter could be followed with the X-ray and at no time was any pain present.

Ambard and Papin trace renal pain to the pelvis, and report relief of pain in small hydronephroses from resection of the pelvic nerve supply. It is hardly possible in the average case to say which structure originates the pain, since with any distention of the pelvis there is probably associated some stretching of the capsule. Clinically, the dull lumbar ache is considered more characteristic of capsular disturbance and the sharp colic of pelvic or ureteral disturbance.

Pain is usually the result of an acute process. Slowly progressive disorders, such as tumors, may greatly distend the capsule, or a large hydronephrosis may develop without causing pain unless there is a sudden increase in pelvic or capsular tension. There are two types of pain due to abnormality of the urinary organs: the one is localized in the region of the organ; the other by a transference of stimulation in the cord is referred to the distant area innervated by the spinal nerves of that cord segment. An impulse arising in the kidney is carried to the cord segments supplying the kidney where it stimulates other associated sensory fibres. The stimulus is then perceived as pain, and not only comes back to the kidney, but also is referred to the peripheral distribution of the sensory fibres arising in these same cord segments. Since the same cord segment may supply fibres to widely separated viscera, pain may be felt in an area far removed from its point of origin.

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The testicle was originally an intra-abdominal organ. It lay at about the same physiological level as the kidney and took its nerve supply from the same cord segments. When the testicle descended to the scrotum, it carried with it its original nerve supply, so in adult life the extremes of the urinary tract receive their nerve supply from the same source. An impulse originating in the kidney—from a stone, for instance—is carried to the cord segments supplying the kidney; it is distributed as a pain sensation along the spinal nerves arising from these segments. It may follow any of these fibres. With considerable regularity it follows the fibres to the testicle as well as those to the kidney, so an irritation in the kidney may be felt as pain in both the kidney and testicle. These pain impulses may not find their way back to the kidney, but may be felt in the testicle alone.

The kidney and upper ureter derive their nerve supply from the ninth, tenth, eleventh and twelfth dorsal and the first lumbar segments. The liver, bile ducts, spleen, pancreas, adrenal, testicle, ovary, uterus, Fallopian tubes, diaphragm, urethra, and appendix all receive fibres from the same segments, so that pain impulses originating in the kidney may be referred to any of these organs. Arising from these same segments and playing a great part in the propagation of renal pain is another group of nerves, namely, the genito-crural, ilio-inguinal, and ilio-hypogastric. The referred pain of renal and upper ureteral disease is distributed along these nerves more often than along any others.

The lower ureter, bladder, prostate, and scrotum are supplied chiefly by fibres from the lumbar and sacral segments, and impulses originating in these organs are referred to areas supplied by these same segments.

The zones of Head have proven of very little practical value, but some familiarity with the distribution of nerves from the various cord segments is of great help in interpreting referred pain.

Probably the most urgent demands for relief from abdominal pain originating in the urinary tract are made by patients with stone. The pain of a renal calculus may be of a more or less constant aching character, or may be a colic. The aching pain is normally felt over the kidney region and may radiate to the groin or genitalia; it may radiate down the leg or to some point in the abdomen. It may be in-

creased by exertion or sudden movements. This type of pain is very confusing and is frequently ascribed to some other abdominal condition. In renal colic the pain comes on suddenly, is usually very severe, and in extreme cases the ordinary doses of morphine do not give relief. The pain is felt over the kidney region and radiates to the groin or genitalia, sometimes down the thigh and may reach the ankle, though it seldom goes below the knee. It is usually accompanied by nausea and vomiting. There is also pain in the testicle and the testicle may be retracted. This is the typical text-book picture. Unfortunately in actual practice this picture is realized in probably less than half the cases. In a series of sixty-seven cases of stone in the kidney or ureter studied by Cecil, only twenty-one, or less than one-third, presented the typical picture of pain in the kidney region radiating to the groin. Approximately one-third had no pain in the back, the pain being referred to some point in the abdomen, and in one case to the epigastrium alone. In another case, according to the history, the pain was originally limited to the testicle and the patient had been subjected to an operation on the epididymis.

Pain in the upper abdomen is usually felt just below the costal margin, and in the lower abdomen in the neighborhood of McBurney's point or in the corresponding position on the left side. The position of the stone, whether in the kidney or in the ureter, has little bearing on the distribution of pain, though a stone in the lower ureter is much more apt to produce bladder symptoms. About half of these cases will show some disturbance of bladder function of varying degree. This disturbance is not necessarily dependent on infection, and is frequently present though the urine may be sterile. Other types of obstruction, such as the lodgment of detritus or blood clot in the ureter, may produce pain indistinguishable from that of stone.

Hydronephrosis produces pain very similar in its general characteristics and mode of radiation to that produced by stone, but is apt to be much less severe, and may be absent altogether. It is usually colicky and recurrent in type, and may be associated with an increased ingestion of fluids. The cessation of pain may be accompanied by the passage of large quantities of urine. This polyuria is not always due to the emptying of the hydronephrotic sac, but may be a polyuria from the sound kidney

following suppression during the acute stages of pain.

In tumors of the kidney pain is not an outstanding symptom. An ill-defined local pain is present in about one-third of cases, but the diagnosis is based on the presence of hematuria, tumor mass, or other symptoms rather than on pain. Obstruction by a blood clot or fragment or tumor may produce an attack of colic.

Patients with tuberculosis of the kidney usually present themselves on account of hematuria or bladder disturbance. Pain is not an urgent symptom. When it does occur it is rather different from other types of renal pain and is more of an aching in the back. When referred to the abdomen it is often spoken of as a burning sensation.

Stricture of the ureter, when of a caliber sufficiently small to interfere with the flow of urine, may cause pain similar to that of other types of obstruction. In strictures of large caliber, as described by Hunner, there is frequently local pain and tenderness. If the stricture is on the right side, the appendix is usually removed before the case is seen by a urologist. These patients complain chiefly of bladder disturbance and of pain referred to other pelvic organs. There is often a neurotic element in the picture which makes it still more confusing. These cases usually begin with pain at the time of menstruation, while they may be comfortable between periods. The pains become progressively worse, till finally they are present almost constantly, and worse during the periods.

Benign tumors of the bladder do not of themselves cause pain. When it does occur, it is the result of obstruction or infection. Pain is an unreliable symptom of malignant growths of the bladder. These growths do not contain nerve fibres, and they destroy nerve fibres as they advance in the bladder wall. Pain is usually due to a loss of elasticity in the bladder wall, and to the inflammatory zone that surrounds the growth. Pain is dull and aching in character and is felt in the suprapubic region. Obstruction may occur as a result of invasion of the vesical orifice or of hemorrhage.

Tumors or deformities at the neck of the bladder cause pain usually by causing obstruction. Malignant growths may cause a dull aching pain in the suprapubic region or in

the groins, though it is more often referred to the lower back and thighs.

Inflammatory conditions of and about the prostate may cause abdominal pain. We have had several cases of supposed renal colic entirely relieved by treatment of the posterior urethra. In a large series of cases of prostatitis, Young reports eight cases having pain over the kidney region, and ten cases that simulated renal colic.

Epididymitis rather frequently causes abdominal pain. The pain is fairly acute, it follows the course of the vas, and, on the right side, may be mistaken for appendicitis.

Pain is not the most dreaded urological symptom;—the most dreaded is a painless hematuria,—but it is the symptom for which patients most often demand relief.

Medical Arts Building.

ABDOMINAL PAIN AND ITS RELATION TO NEUROLOGICAL DISEASES.*

By FRANK H. REDWOOD, M. D., Norfolk, Va.

Neurological conditions represent a very small per cent of the total number of causes of pain in the abdomen and, due to this rather infrequent occurrence, needless operations are sometimes done. I cannot impress upon you any more forcibly the more common neurological diseases in which abdominal pain is a prominent symptom, than to cite briefly cases that have come under my observation.

A woman of forty-nine years had pain in the abdomen and back for three years. She had been examined, had all of the laboratory tests done, and she had her ureters dilated a number of times, but the pain continued. She had a tender spot on pressure in the lumbar region, and a radiograph of the lower spine disclosed almost complete destruction of the eleventh dorsal vertebra. She was completely relieved from pain from the time she reacted from the anesthetic. Pott's disease, as well as other arthritic changes in the vertebra, quite frequently is found to be the cause of abdominal pain. Particularly in children who have sudden attacks of pain in the abdomen, which is worse at night, it is well to keep in mind Pott's disease, with nerve root irritation as a source of trouble.

A woman, fifty-two years of age, consulted me because a pain in the left abdomen had

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made her nervous and kept her awake at night. On examination, she had some tenderness over the left kidney, and a voided specimen of urine showed eight pus cells per field. She was referred to a surgeon, who had the kidney rayed for stones, with negative results. She was then advised to have a cystoscopic examination and, while preparing to enter the hospital, the typical eruption of herpes zoster made its appearance. As far as I know, the diagnosis of herpes zoster is impossible before the eruption appears, but it is well to keep in mind that the pain of herpes, which is usually referred, may be present several weeks before the eruption appears.

A young man of twenty-four was admitted to the hospital with abdominal cramps, rigidity of the abdomen, temperature, and a marked leukocytosis. He complained of some numbness of the soles of the feet. Neurological examination disclosed that he had an early transverse myelitis which later proved fatal. An acute myelitis may rarely simulate an acute abdominal condition. A proper diagnosis here may be made on the history, a careful sensory examination, testing the reflexes, and a study of the spinal fluid. In a well-developed case of myelitis, of course, the differential diagnosis should not be difficult.

A woman of sixty years was admitted to the hospital with nausea, vomiting and pain in the abdomen. She was operated and a normal appendix removed. A few days later tabes with gastric crises was diagnosis. This is not an uncommon cause for abdominal pain. A negative spinal fluid and blood Wassermann does not necessarily rule out the presence of tabes. Given a patient with small pupils, that do not react to light, a Romberg and absent tendon reflexes and pain in the abdomen, accompanied by nausea and vomiting, the cause of the clinical picture is in all probability, syphilis, regardless of the serology. Urinary, bladder and gall-bladder crises do occur, though they are rare.

A malignancy, from some region, metastasizing to the spinal cord, may at times give pain, referred to the abdomen. I have recently observed a case, in which there was pain in the chest and upper abdomen, from a malignancy of the mediastinum. The pain was so severe at first, that it was thought she might be developing herpes zoster and the case was seen in its true light only after cord symptoms manifested themselves.

Disturbances of the vegetative nervous system, which have vague symptoms of pain, referred to some region of the abdomen, represent a large class of patients in a neurological practice. These patients usually complain of pain in the right or left lower quadrant, or in the neighborhood of the stomach or gall-bladder and often present a problem in diagnosis. This type of individual should have a thorough study, before surgery is instituted as a means of treatment. Closely akin to this class is another group of cases that are frequently needlessly operated. I have in mind the young woman, with pain in the lower abdomen, possibly related to the menstrual period, who has had one or more curettements and finally a pelvic operation was advised. It may be wise to try some type of endocrine therapy, which often makes an operation unnecessary.

The pain of metallic poisons, such as lead, and the pain in drug addicts, from withdrawal of the drug, should be mentioned as rare causes.

And, lastly, there is "delusional" pain in some types of mental cases that is not so infrequent. These delusions drive the patient from one doctor to another, seeking surgical relief. The outstanding delusion may be that the food is poisoned, the patient will vomit after each meal, or probably will refuse to eat at all, because of the pain. These symptoms may persist for many months, until finally the true mental state is recognized and the patient is disposed of in the proper hospital.

In this discussion, I have only briefly outlined the chief neurological causes of abdominal pain.

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THE DIAGNOSIS AND TREATMENT OF DUODENAL ULCERS.*

By STUART MCGUIRE, M. D., Richmond, Va.
McGuire Clinic.

It was formerly taught that gastric ulcers were frequent and that their diagnosis was easy, while duodenal ulcers were rare and that their diagnosis was difficult. The modern surgeon and roentgenologist have proved that just the reverse is true. Gastric ulcers are not as frequent as duodenal ulcers, and their diagnosis is attended by a much greater chance of error.

Occasionally in medical writings it is a

*Read at a meeting of the Richmond Academy of Medicine.

practice to use the word "peptic ulcer" and under this term to describe the symptoms and treatment of both gastric and duodenal ulcers. This is unfortunate, as anatomically and pathologically they are distinct clinical entities, and the indications for their treatment are different. They cannot be discussed together without danger of confusion.

The dividing line between the stomach and duodenum is clearly indicated by the pyloric vein, and it is usually easy on inspection to locate the origin of an ulcer and to designate it as gastric or duodenal. A gastric ulcer is rarely within an inch and a half of the pylorus, and a duodenal ulcer is almost always located one-half inch or more distal to this landmark.

A gastric ulcer develops in an acid field, and, for this or some other reason, has a strong tendency to undergo malignant degeneration, while a duodenal ulcer has its origin in an alkaline soil, and rarely if ever develops into cancer. A gastric ulcer should be regarded as a potential cancer and should be removed surgically as soon as discovered, while a duodenal ulcer should be considered a benign lesion and should not be operated on until medical treatment has been faithfully tried and proved inefficient.

While it is true that symptoms of ulcer of the stomach and duodenum have so much in common that we frequently speak of an "ulcer history," it is a fact that they differ strikingly in certain respects and that a differential diagnosis can usually be made with reasonable certainty on the clinical history alone. The symptoms of both gastric and duodenal ulcers are indigestion, pain, vomiting and hemorrhage, but the characteristic symptom is pain. In gastric ulcer the pain usually comes on shortly after a meal, gradually subsides and is reproduced by taking food again. In duodenal ulcer the pain as a rule does not come on until three or four hours after a meal, and is completely and immediately relieved by taking food. Patients with ulcer of the stomach dread taking food, while patients with ulcer of the duodenum soon learn to keep a biscuit or glass of milk easily accessible in order to arrest the so-called hunger pain when it develops.

The analysis of the stomach contents after a test meal, once so relied on as a means of diagnosis, has been largely discredited. It is true that 20 per cent of gastric ulcers and 72 per cent of duodenal ulcers show hyperchlor-

hydria, but this condition is also common in other diseases.

The presence of blood in either vomitus or feces is significant, but not conclusive evidence of the existence of an ulcer. An analysis of cases in which such bleeding occurred showed that 4 per cent were due to gall-bladder disease, 2 per cent to appendicitis and a smaller proportion to cirrhosis of the liver, splenic anemia, hemophilia and purpura.

Fortunately in the modern method of X-ray examination of the stomach and duodenum, we have the means of securing information of great diagnostic value. In duodenal ulcers the lesions can be shown by obstruction or deformity of the bulb, and in gastric ulcers by niches, notches, craters or an abiding spasm of a zone of the stomach. Not only does the X-ray in expert hands establish a positive diagnosis in 95 per cent of cases, but it also gives valuable indications for treatment, as it shows the size and location of the ulcer, the depth and extent of the crater, the degree of obstruction it has produced and the amount of dilatation of the stomach that has resulted.

As previously stated, the indications for the treatment of gastric and duodenal ulcers are so different that the two should not be considered together. For lack of time to take them up separately, the remainder of the paper will be devoted to the discussion of the treatment of duodenal ulcers.

The first question in a given case is whether the treatment shall be medical or surgical. Shall the patient be given the medical treatment standardized by Sippy, which consists essentially of rest in bed, frequent but restricted feedings and the neutralization of stomach contents by the administration of alkalies; or shall the abdomen be opened by the surgeon and the ulcer excised or a posterior gastro-enterostomy performed? On this question there has in the past raged a vigorous and almost disgraceful controversy. It was due to the fact that physicians generally treated patients in the early stages of the disease and saw them relieved of their symptoms and apparently restored to health. They were usually ignorant of the relapses that occurred. Surgeons on the other hand dealt with patients who had suffered with duodenal ulcer for years and had been treated by many physicians without permanent relief. They were, therefore,

impressed with medical failures and unmindful of medical cures.

Out of the discussion the profession has finally come to the conclusion that certain cases should be treated medically and other cases should be treated surgically, and the indications and the contraindications for the respective methods of treatment have been pretty well crystallized.

It is now generally accepted that a duodenal ulcer, unless it produces marked pyloric obstruction or is shown by the X-ray to be of the perforating type, should be treated medically, provided the cooperation of the patient can be assured. So great is my belief in the efficiency of medical treatment in properly selected cases, and in the better results secured in the cases cured medically compared with those cured surgically, that when operating on a patient who has both duodenal ulcer and chronic appendicitis, I often remove the appendix and leave the ulcer to be treated by my medical colleagues.

Success in the medical treatment of an ulcer depends not only on the nature of the lesion, but also on the temperament, intelligence and financial means of the patient. There is a peculiar psychology of the sick which often makes a patient who would be perfectly willing to stay in a hospital if he were operated on by a surgeon, unwilling to stay the same length of time to be cured of the same disease by medical treatment at the hands of a physician. If the patient is of a rebellious temperament and at the outset refuses to enter the hospital and insists on carrying out the treatment at his home, there is no use undertaking the case. Again, if the patient has scant intelligence and lacks the control necessary to cut out the desires of his appetite, he had better be turned over to the surgeon to cut out his ulcer. Finally, if the patient's financial means are such that he has to do hard manual labor to earn a living and has to subsist on coarse and improperly cooked food, the prospects of a cure by rest, diet and medication over a long period of time are not good. The medical treatment of duodenal ulcer is poor treatment for very poor people.

When after a careful study of the character of the ulcer and the attitude and circumstances of the patient, it is decided that the case is a suitable one for medical treatment, the first thing to do is to have a frank talk with the

man. He should be told exactly what will be expected of him. He should be told that he would be required to stay between three and four weeks in the hospital and another two weeks at home before he resumes full work. He should be told that the diet and frequent feeding and medication will have to be continued over a period of months, possibly a year or longer. The necessity of following the regime without modification should be stressed and the principles underlying the treatment should be fully explained. With such an understanding at the outset, it is usually not difficult to obtain complete cooperation during the months that follow and the results are usually most satisfactory.

The advantages of the medical treatment of an ulcer of the duodenum over the surgical treatment are not only that the danger and painful ordeal of an operation are avoided, but that the anatomical structure and physiological function of the stomach and duodenum are not distorted or perverted. It is true that sometimes after a cure has apparently been effected there is a recurrence of symptoms, or even a hemorrhage or a perforation, but these calamities are the exception and not the rule, and they are no more frequent than the complications which sometimes follow surgical operations in the form of the vicious circle or regurgitation of bile; the dumping stomach or too rapid passage of food into the intestines, and the secondary ulcers which form in the new pylorus or at the anastomotic opening into the jejunum.

The indications for a surgical operation on a patient with duodenal ulcer are (1) hemorrhage, (2) perforation, (3) obstruction, (4) persistence or recurrence of symptoms despite painstaking and prolonged medical treatment.

IN CASES OF HEMORRHAGE an immediate operation is rarely advisable. The vast majority of patients will have a better chance for life if they are first treated by absolute rest, the prohibition of food, the administration of horse serum or transfusion with blood. After bleeding ceases and the general condition improves, an operation should be done to prevent the recurrence of the symptom. In these cases it is not sufficient to do a gastroenterostomy even with infolding of the ulcer. To prevent further bleeding it is necessary either to excise the ulcer or destroy it with an actual cautery.

IN CASES OF ACUTE PERFORATION an operation should be done as soon as a diagnosis is made. The recognition of the condition is based on the history of previous symptoms of ulcer, although, strange to say, they are often lacking, on the sudden agonizing pain which is not relieved by the ordinary dose of morphia, and on the prompt development of board-like rigidity of the abdominal wall. When there is a question as to whether the case is one of fulminating appendicitis or perforating ulcer, the abdomen should be opened by a mid-right rectus incision which can be extended up or down to meet conditions. If a perforation is found, no effort should be made to excise the ulcer or freshen its margins, but the opening should simply be closed by a purse string or interrupted chromic catgut sutures and the area protected by covering it with a piece of adjacent omentum. If the perforation is associated with constriction of the outlet of the stomach, the surgical procedure should include a posterior gastroenterostomy. Some surgeons advise this as a routine procedure, but in my personal work I have rarely deemed it wise or necessary.

After dealing with the perforation, the free fluid in the abdomen should be removed with sponges or a suction apparatus, and the area around the site of operation drained with folded sheets of rubber tissue brought out through the upper angle of the wound. Irrigation of the abdominal cavity and pelvic drainage through a stab wound above the pubes have been tried but have been found to do more harm than good. The result of operations for perforating duodenal ulcers has been surprisingly good. Most cases recover and have no further untoward symptoms. A careful analysis of a large number of cases shows that the mortality is in direct proportion to the time which elapses between the perforation and the operation.

There are cases of obstruction where, owing to failure of early diagnosis or lack of proper treatment, the ulcer has become deeply indurated or the ulcerative process has resulted in cicatricial contractions that have caused obstruction of the pylorus or even dilatation of the stomach. These are mechanical conditions and can only be corrected by surgery.

In cases of duodenal ulcer where medical treatment has failed, surgical treatment is indicated to relieve symptoms and to restore

health. These instances will become rarer if surgeons, when called in consultation in early cases, would unite with the physician in urging the patient to carry out medical treatment faithfully over a long period. When medical treatment has apparently failed, it will be well to ascertain just what method was prescribed, how long it was carried out, and to what extent the patient cooperated with his physician. Often it will be found that the treatment consisted only of moderate dietary restrictions over a period of a few weeks; again, the treatment may have been along the right lines but was discontinued shortly after symptoms subsided, and, finally, the patient may have been unwilling to deny his appetite or to carry out the tedious schedule that was outlined for him. These cases cannot be fairly classed as medical failures, and treatment should be begun anew.

CHOICE OF OPERATION

In rare cases there may be an indurated ulcer which can be excised and the incision closed in such a manner as to avoid obstruction of the duodenum. This can be done only where there is a single small ulcer located on the anterior wall of the duodenum at some distance from the pylorus.

Usually the surgeon has to choose between some form of pyloroplasty or gastroenterostomy. The operation of pyloroplasty was introduced by Mikulicz, and consists in dividing the pylorus by an incision in the horizontal axis of the gut and suturing the incision at right angles to the line in which it was made. This permits the excision of the ulcer and overcomes any obstruction at the pylorus by enlarging the outlet of the stomach. Finney adopted the principle of Mikulicz, but in his operation divided the pylorus by a horse-shoe incision. Horsley and Judd have recently perfected very simple and safe methods of doing pyloroplasty, and the technique of one or the other is generally practiced by the surgeon of today.

The operation of pyloroplasty can be satisfactorily performed for duodenal ulcer only when the lesion is located near the pylorus and when the adjacent bowel wall is comparatively normal. If the ulcer is more than three-fourths of an inch from the pylorus it cannot be excised, and if the tissues are thick and inelastic they cannot be approximated in the desired position without producing deformity and they cannot be sutured without danger of leakage.

The advantages claimed for pyloroplasty are that it places the outlet of the stomach in its anatomical and physiological position, that it enables the surgeon to excise the ulcer area, and that patients do not suffer afterwards from the vomiting due to regurgitation of bile.

The disadvantages of pyloroplasty are that the incision is made through septic and ulcerating tissues which may cause local or general infection, that the incision is made through scar tissue which may contract and cause obstruction, that the incision is so located that it may become adherent to the liver or abdominal wall and cause interference with the movements of the stomach, and, finally, that secondary ulcers may develop along the suture line.

The operation of posterior gastroenterostomy for duodenal ulcer consists in an effort to side-track the diseased area by making an anastomosis between the stomach and jejunum. The method is applicable in practically all cases. It is easy and safe in execution because the tissues in the field of operation are normal. Its effect on the stomach is both mechanical and chemical. Mechanically, it permits the gastric contents to pass readily into the intestines, as the new opening between the stomach and jejunum relieves any obstruction that may have existed at the pylorus. Chemically, it lowers the acidity of the gastric contents, as the stoma also permits the alkaline secretions of the liver and pancreas to pass into the stomach. Thus, gastric dilatation and food stagnation are cured by drainage, and the hyperacidity of the stomach is relieved by neutralization of the acid with the patient's own alkali.

The objections offered to the operation of gastroenterostomy are that sometimes food escapes too quickly from the stomach, causing bowel disturbances, that occasionally bile and pancreatic secretion enter the stomach in large quantities, causing nausea and vomiting or the so-called vicious circle, and, finally, that in a few cases an ulcer develops in the jejunum, at or near the anastomosis, due to the irritation of a mucous surface which has no natural immunity to the action of gastric juices. This complication can be made infrequent by placing the opening at the bottom of the stomach so there will be no retention, and by using catgut instead of silk so there will be no un-

absorbable sutures left as a possible source of irritation.

The operations of pyloroplasty and gastroenterostomy each have their advantages and disadvantages, both have their special field of usefulness, and neither should be employed to the exclusion of the other.

Unfortunately certain surgeons in their advocacy of one of the two methods have been harsh in their criticism of the other, and a controversial spirit has developed that has resulted in an unjust disparagement of all surgery for duodenal ulcer.

The present trend of surgical practice is in favor of pyloroplasty, but, as has been previously pointed out, the operation has only a limited field of application. At the Mayo Clinic during the year 1929, seven hundred and forty-six operations were done for duodenal ulcer, and, of these operations, a posterior gastroenterostomy was performed more than twice as often as all other methods combined.

Personally, I know of no operation in surgery, with the exception of partial thyroidectomy for exophthalmic goiter, that gives such prompt and satisfactory results as a well executed posterior gastroenterostomy on a properly selected case of duodenal ulcer. Conscientious surgeons claim that the operation gives complete and permanent relief in 90 per cent of patients and admit that most of their failures are due to faulty technique in the operation or lack of judgment in its application.

Dr. Wm. J. Mayo, with the cooperation of the New York Life Insurance Company, has made a follow-up study of several thousand patients who had been operated on for duodenal ulcer, and he found that these individuals lived longer than the average expectancy of life of people at the same age who had not been operated on.

AVERTIN ANESTHESIA.*

By H. GRANT PRESTON, M. D., F. A. C. S., Harrisonburg, Va.

The power to induce temporary but complete insensibility to the pain of surgical operations is one of the greatest benefactions to mankind. Soporific potions were apparently known even to primitive civilizations. The Assyrians are said to have strangled their children before circumcision, thus anesthetizing by CO₂. Helen is said to have cast "nepenthe" into the wine of Ulysses and we

*Read before the Medical Association of the Valley of Virginia, in Harrisonburg, Va., May 29, 1930.

read of "drowsy syrups" being used in Shakespeare's time. Opium and Indian hemp, "hashish" were probably known to the Egyptians and Greeks, while "mandrake" which contains hyoscine, was known to the Babylonians and Hebrews. Mandrake was used in surgical operations by Dioscorides, a surgeon in Nero's Army. It was the most popular narcotic of the middle ages and held sway until the 16th century. The 18th and 19th century surgeons occasionally intoxicated their patients with alcohol or opium when an operation required a still subject. At best these drugs were all inefficient and few surgeons used them, rather relying on swiftness of manipulation to minimize the patient's pain. Usually the patient was tied or held on a table, bed, or chair, and the operation performed, in some cases with such speed as to approach "sleight of hand." In fact only such operations as were a dire necessity were undertaken at all, because of the terrifying agony entailed.

In 1800, Sir Humphrey Davy, in England, anesthetized himself with nitrous oxide and suggested its use in surgical operations. Forty years later, Horace Wells, a dentist of Hartford, Conn., used this gas to relieve the pain of teeth extractions. He lost a patient while giving the anesthetic, however, and gave up his practice, later taking his own life. Wells reported his results to Wm. Morton, of Charlton, Mass., a friend and former partner. Morton set about to find a safer and more reliable anesthetic to use in dentistry. He learned, through Chas. T. Jackson, a chemist of Boston, of the anesthetic properties of ether. After experimenting with this drug in 1846, Morton gave a perfect demonstration of ether anesthesia at an operation performed by Dr. Warren in the Massachusetts General Hospital at Boston. Dr. Crawford W. Long, of Jefferson, Ga., gave ether for a surgical operation in 1842, but failed to adequately publish it. Since this time ether has been used freely and satisfactorily, both alone and in combinations with such anesthetics as chloroform, nitrous oxide, ethylene, etc. The ideal anesthetic has apparently not yet been attained, however, and efforts to improve on those which we have have resulted in many innovations, such as local, spinal, intravenous as with the barbituric acid derivatives, and rectal anesthesia such as ether, chloroform and oil mixtures.

It is a form of rectal anesthesia with which

I wish to deal in this paper. Willstaetter and Duisberg originated tribromethanol and Eichholtz introduced it into therapeutics as Avertin. It has been used extensively in Europe and for several years the Winthrop Chemical Company of New York has been supplying amounts to a few selected surgeons, for research purposes. Day before yesterday I received a telegram from the above manufacturers, stating that there have been three hundred thousand reported cases of anesthesia by Avertin. In this number there have been thirty-five deaths, twenty-four of which could be directly attributed to, "disregarding contraindications, over-dosage and using decomposed solution."

Avertin is a white crystalline substance which is soluble in water at 4 degrees centigrade, up to 3½ per cent. At higher temperatures, hydrobromic acid is split off with the formation of dibromacetaldehyde, which are extremely injurious to the intestines. At temperatures below 35 degrees C. it crystallizes and fails to go into solution. It must be protected from light and air and is supplied to the trade in the form of a fluid, each cubic centimeter of which contains one milligram of the drug.

Avertin is absorbed by the intestinal mucosa more rapidly than the water in which it is dissolved (Straub). It is detoxicated in the liver by uniting with glycuronic acid and is excreted almost entirely by the kidneys in this combination. It is non-irritating to the intestinal mucosa of man and no organ has been injured by its repeated use.

In large doses, respiration is slowed but the volume of individual inspirations is increased. The heart and blood pressure are practically unaffected by moderate doses but larger doses cause a sharp fall in blood pressure. Where needed, the usual respiratory stimulants, and especially CO₂, will relieve the depressed respiration while ephedrin will raise the blood pressure. When found advisable, the remaining fluid in the rectum may be syphoned off, thus shortening anesthesia.

As compared to ether-chloroform and oil anesthesia, Avertin induces sleep much more rapidly and awakening takes place without salivation, excitement or psychic disturbances, while nausea is absent in the large percentage of cases.

As in all general anesthetics, the safety of the rectal method depends upon the difference

between the minimal effective and the lethal doses. The lethal dose for man is not known, but in the literature doses of from 70 to 200 mg. per kilo body weight have been used and it has been demonstrated that in mice this margin of safety is great. Cachectic, dehydrated and debilitated patients require smaller, while normally developed children tolerate and require relatively larger doses. The usual dose which is satisfactory for most patients is 100 mg. per kilo body weight. All investigators agree that the chief virtue of Avertin is its ability to eliminate psychic shock and obviate the dread of ether with its pungent odor and often smothering and nauseating sensations. It is, therefore, a basal or induction anesthetic and under no conditions shall complete anesthesia be induced by Avertin alone. While it is true that about 30 per cent of cases receiving the usual dosage of 100 mg. per kilo weight are sufficiently anesthetized, it is usually desirable to supplement Avertin with ether, nitrous oxide or local anesthesia. Where used as an adjunct to Avertin, these other anesthetics are usually used in very small quantities but are especially needed in abdominal and throat work.

This anesthetic has been used in practically all surgical and gynecological operations and has been found especially indicated in those about the head and neck, prostate, genitalia, extremities including fractures, in the presence of heart and lung complications, exophthalmic goiter, eclampsia, tetanus, meningitis, and psychiatry to control convulsions and unruly patients. Its greatest value is probably to be found in those patients who are very nervous and have taken ether frequently, in which cases the dread of the anesthetic and its attending nausea is often greater than the fear of the operation.

Avertin is contraindicated in cases of severe destructive lesions of the liver, kidneys, in advanced pulmonary tuberculosis, extreme cachexia, acidosis, and serious blood diseases.

The pre-operative preparation of the patient consists of a hypnotic such as veronal or amytal the night before, when an ordinary cleansing enema is given. It is not desirable to give an enema the morning of the operation, as the fluid in the rectum tends to retard the absorption of Avertin, and in emergencies no enema is necessary. A hypodermic of scopolamine and morphia should be given an hour before the Avertin and in our experience this

has been a very valuable adjunct. In cases of dehydration, twenty-four ounces of fluid may be given orally, the night before.

TECHNIQUE

The patient is weighed just prior to operation and the amount of Avertin to be used is calculated on the basis of mg. per kilo body weight. This is dissolved in an amount of distilled water sufficient to make a 3 per cent solution and injected, by ordinary enema methods, into the rectum. It is desirable to follow a definite routine in making the solution in order to expedite the procedure and avoid complications.

The amount of sterile water necessary to make a 3 per cent solution is measured into an Ehlemeyer flask and carefully heated to 37 degrees C., never below 35 degrees C. nor above 40 degrees C. because of crystallization and decomposition. The required amount of Avertin fluid, 1 c.c. of which contains 1 mg. of the drug, is carefully measured by a pipette and slowly discharged into the flask of water, which should be constantly agitated. If crystallization takes place, the white crystals may be seen floating on the fluid, while if complete solution fails, the globule of Avertin may be seen in the bottom of the flask.

With each package of Avertin, a bottle of 1-1000 Congo-red stain is supplied. Two drops of this dye are placed in about 5 c.c. of the Avertin and sterile water mixture and produce a clear orange red color if the solution is all right. If, however, the color changes to blue, it is an indication that the Avertin has broken down into the toxic hydrobromic acid and diabromacetaldehyde and the whole preparation should be discarded. In all cases solutions should be made up fresh and all precautions observed. While it takes long to tell, the actual mixing requires very little time, after one becomes accustomed to preparing it.

With the ordinary enema tube in place, the contents of the flask are allowed to flow slowly into the rectum. This may be done on the patient's bed or on the operating table. The room should be darkened, quietness should be required of all attendants and the patient should be disturbed as little as possible.

In from three to five minutes the patient closes his eyes and goes off into normal sleep without any preliminary stage of excitement. Anesthesia lasts from one to three hours, but amnesia exists much longer and it is desirable

to keep the jaw forward throughout anesthesia to avoid its falling back and causing cyanosis. Even in cases which react to pain at end of a long operation, as evidenced by flinching and moaning, nothing is remembered after induction of sleep. The patient generally sleeps quietly for three to six hours after reacting and much post-operative pain is avoided. Even when ether or nitrous oxide is used with Avertin, they are used in very small quantities and nausea seldom occurs. Local anesthesia sometimes suffices to obviate the reaction to pain, as evidenced occasionally when the skin, mucous membrane or periosteum are incised.

In obstetrics, Avertin is used in smaller doses in conjunction with magnesium sulphate, novocain and morphia. At the beginning of the first stage of labor 2 c.c. of a 50 per cent magnesium sulphate solution, together with novocain and morphia, is injected deeply into the gluteal muscles. When the cervix is completely dilated and the child's head is below the brim of the pelvis, from 60 to 75 mg. per kilo body weight is injected into the rectum, above the head of the child. To avoid expulsion of the fluid, the patient may be turned on her side and the anus compressed during pains. This procedure produces complete amnesia and does not materially affect the pains nor the length of labor.

In our very small series of thirty-six selected cases, the results have been very gratifying. There were but two failures, due to improper solution in our first case, and to inadequate dosage in the other. The latter case was anesthetized successfully at two subsequent operations.

The ages of our cases varied from eleven to eighty-two years, while the operations were as follows:

- 1 Hysterectomy.
- 1 Colporrhaphy.
- 3 T. and A.
- 3 Amputations of leg.
- 5 Appendectomies, one with marked heart lesion.
- 1 Severe headaches, which had resisted large doses of codeine, morphia, antipyretics and even chloroform. Avertin caused marked cyanosis in this case, which was promptly relieved by elevating jaw and removing excess fluid from the rectum.
- 1 Suture of bleeding tonsil.
- 3 Thyroidectomies.
- 2 Gall-bladder operations.

1 Laparotomy with removal of an enormous ovarian cyst in a patient eighty-two years old.

2 Obstetrical, one of which required version.

3 Radical Caldwell-Luc antrum operations.

4 Mastoidectomies.

1 Laparotomy and D. & C.

3 Cystoscopies, one failure.

1 Hemorrhoidectomy.

1 Nephrectomy.

Every patient seemed delighted with the anesthetic and very little nausea has been experienced.

Our largest dose was 116 mg. per kilo body weight while our average dose was about 5 c.c. of Avertin fluid. As each 100 c.c. of Avertin fluid retails for \$14.00, the average cost per administration was 70 cents. Sixteen cases of the series required no supplemental anesthesia, fifteen required nitrous oxide, and six ether.

Of ten cases in which the blood pressure was taken before, during and after reaction from anesthesia, two showed a sharp fall in both systolic and diastolic pressures. In one of these the pulse pressure was materially lowered but in the other it was not materially affected. Eight of these ten cases showed little or no influence on either systolic or diastolic readings. The pulse rate was not materially affected and respiration, while slowed, was never a cause for alarm.

We feel that we are justified in the further careful use of Avertin in selected cases, and are sure that, with proper precautions exerted by the anesthetist, it will result in a great boon to many sufferers, its field of usefulness gradually expanding as we become more familiar with its use.

A NEW RADICAL MASTOID OPERATION.*

By J. MORRISSET SMITH, M. D., Now York.

This operation is presented as an improved technique for performing the radical mastoid operation. The diseased contents of the middle ear, eustachian tube, attic, antrum and mastoid are thoroughly removed as in the radical operation. It differs from the radical by accomplishing these steps without removing the posterior bony canal wall. Allowing this canal wall to remain in place makes it possible to avoid the post-operative radical cavity and flap and permits a solid post-auricular union

*Read by invitation before the Virginia Society of Otolaryngology and Ophthalmology at its annual meeting, in Roanoke, Va., May 3, 1930.

or healing as obtained after a simple mastoid operation, the end results being similar to an ordinary healed O. M. P. C.

TECHNIQUE

The usual simple mastoid incision is made, starting over the centre of the mastoid tip and following the normal curve of the external ear one-quarter to one-half inch behind its attachment. The incision extends upwards just above the temporal ridge. The cortex is exposed with the spine of Henle, the temporal ridge and mastoid tip in full view. The bone is removed just below the temporal ridge and behind the spine of Henle until the mastoid antrum is opened. The posterior canal wall is not lowered unless it be necessary to remove the outer part to avoid a far forward lateral sinus. All of the granulations and diseased bone are removed from the antrum and mastoid cavity as in the simple mastoid opera-

additus. In some instances it may be easier to remove the mallens through the external auditory canal. The posterior half of the membranous canal is then carefully separated from its bony attachment in the external auditory canal and held in place against the anterior canal wall allowing the anterior membranous attachment to remain intact if possible. This allows access to the middle ear and attic. Through this opening the granulations and debris are removed from the middle ear.

The annulus tympanicus is then removed and the eustachian tube thoroughly curetted. This leaves the attic and the bony space extending posteriorly into the additus to be cared for. Free access may be had to this space in the roof of the middle ear by partially removing the external wall of the attic. This corresponds to the rim of bone forming the attachment of the upper part of the annulus tym-



Left temporal bone showing the open canals of horizontal and vertical course of the facial nerve, three semi-circular canals, oval and round windows and the tensor tympani muscle.

tion. In the average chronic case there are few if any mastoid cells present; however, the cavity is cleansed to healthy plate or bone regardless of the extent.

The additus is now enlarged by removing a small portion of the inner part of the bridge just external to the incus and horizontal semi-circular canal. If this opening is made too large it may interfere with the granulations filling in the posterior wound. The remnants of the ossicles may be removed through the

paniens or the bony rim on each side of the Ravinin fissure. The removal of this bone together with the contents of the middle ear must be carefully performed, since the floor of the cavity at the time of the operation is represented by the internal wall of the middle ear. The facial nerve, crossing the inner wall through the fallopian canal, is covered by a very thin layer of bone; pressure on its wall will result in facial paralysis. An accurate knowledge of the anatomy is necessary to avoid

the removal of the stapes or injury to the labyrinth. Care must also be taken to leave a firm posterior bony canal wall; necrosis may result if too much of it is removed.

The operation at this point is represented by a clean middle ear, attic, antrum and mastoid cavity with the posterior canal wall in its normal position. The membranous canal is now restored as nearly as possible to its original position in the external auditory canal and packed in place with vaseline gauze. A cigarette drain is inserted directly into the mastoid antrum behind and the mastoid wound closed above and below with clips.

AFTER TREATMENT

The subsequent mastoid dressings are identical to those following the simple mastoid operation. The clips are removed the third day, the wound cleansed and the cigarette drain replaced. It is then dressed every day or every second day until healed. The reaction and discharge following the acute cases are usually absent, and clean granulations fill in the bony cavity with complete healing of the wound in three to four weeks. The canal packing is allowed to remain in place three days. It is then removed, the canal and middle ear cleansed and the packing replaced daily for eight to ten days; after this the packing is discontinued and boric irrigation used three times a day, followed by alcohol drops.

There is a tendency for granulations to form in the middle ear, especially on the bare bone at the bottom of the bridge and external attic wall. They may be removed with a sharp ring curet or a small aural biting forceps after the insertion of a pledget of 10 per cent cocaine solution. It is absolutely essential to have the internal wall dermatize without granulation tissue. It is, therefore, necessary to have the middle ear and mastoid wound free from blood when the original packing is inserted at the close of the operation. Time should also be taken to remove the blood collecting in these cavities following the first three or four dressings. This insures the best hearing results. About six weeks are required for dermatization of the canal and middle ear. Daily dressings are necessary to obtain the best results.

CONTRA-INDICATIONS

It is contra-indicated when there is an abnormally small and deep external auditory

canal; a normal sized canal is needed to properly carry out the after-treatment. It is also contraindicated where there is a very far forward lateral sinus, an extensive necrosis of the posterior canal wall, a facial paralysis, or symptoms of internal ear or other intracranial complications. A complete radical mastoid operation is indicated in these cases.

From the writer's point of view it is not possible to employ any one type of operation in all cases of chronic mastoiditis. It is my custom to let the degree of necrosis in the individual case dictate the type of operation to be employed. I do not hesitate to perform a complete simple, a new radical, or a complete radical operation, depending upon the one I feel will yield the best results.

ADVANTAGES

The decided advantages of this procedure over the radical operation are due to the removal of the diseased contents of the middle ear and attic without disturbing the posterior bony canal wall. Allowing the posterior wall to remain in its normal position avoids the post-operative radical cavity and plastic flap. It is easier to keep the internal wall of the middle ear free from granulations after the operation. The subsequent hearing is largely dependent upon this one factor in any operation requiring the removal of the ossicles.

The exenteration of the diseased tissue of the middle ear and mastoid is practically as complete as that following the radical operation with the exception of the removal of the posterior bony canal wall.

The normal tubular external auditory canal remains to collect and convey the sounds directly to the internal wall of the middle ear. Finally, there is the advantage of avoiding the years of after-care and treatment necessitated by the radical operation.

123 East Fifty-third Street.

PATHOLOGIC LAUGHING AND CRYING.*

By WALTER FREEMAN, M. D., Washington, D. C.
St. Elizabeth's Hospital.

Inappropriate and unmotivated laughter or crying is a common phenomenon in many mental disorders both slight and grave, but it is not as such pathologic, because it is in normal accord with the feeling-tone of the individual at the moment. When I speak, therefore, of pathologic laughing and crying, I refer to the

*Read before the Academy of Medicine, May 27, 1930.

expression of the emotions that is altogether out of proportion not only with the stimulus that caused it, but also the actual feeling-tone of the patient at the moment. Such patients cannot help laughing and crying. The French speak of it as *rire et pleurer spasmodique*, and the Germans as *Zwangslachen und Zwangsweinen*, indicating the irresistible and automatic character of the act. Such a condition is due to organic disease of the brain and usually indicates multiple lesions, so that it is often of rather ominous significance.

The condition seldom tends to pass away. There is a patient at St. Elizabeth's Hospital who walks spastically about the grounds and either passes you with averted eyes or greets you with a sonorous nasal "Hello." If you stop him and look into his face he bursts into a roar of laughter that shakes him to the toes, crimsoning his face and continuing to weakness and cyanosis. A long gasp for breath and a new guffaw brings tears to his eyes and amusement or pain to the beholder's. As the paroxysm wears off he is able to tell you in a deep nasal guttural voice that he is not at all happy about it and does not want to laugh, but that the outburst is entirely automatic and out of control. He has been the same way for twenty years, following strokes that paralyzed now his right side, now his left. Physical examination discloses indications of mild hemiplegia affecting both sides; and the face in particular is restricted in voluntary movements.

The other patient is an older man who has also had a series of strokes of mild character that have left him somewhat affected mentally, and have resulted in some spasticity with pseudobulbar palsy. In him the emotional outbursts take the form of weeping which he is only partly able to control in spite of the utmost effort put into maintaining the composure of his face. He is afraid to speak, since if he utters more than a few words he is overcome by an irresistible automatic contortion of the face, with crying, that altogether prevents him from continuing the conversation. It may take a minute or more for his composure to return.

These two patients, then, are overcome at times by an automatic and irresistible emotional display, released by a hair-trigger mechanism, explosive in its violence, stereotyped, and having little or no relationship with the

exciting stimulus. They raise the interesting question as to why lesions of more or less similar character (infarcts) should provoke in one patient gales of laughter and in the other paroxysms of weeping. It may be stated here that the pattern of reaction is apt to remain constant over long periods of time, although sometimes a single individual will show both laughing and crying, one giving way to the other. Young individuals are more apt to show pathologic laughing and older ones to show pathologic crying. Possibly the light-heartedness of youth and the general depression of old age makes for the difference, but, as I indicated before, the laughing patients are not happy and the weeping ones not sad. The lesions of the diseases of youth have a somewhat different distribution than the diseases of age, and since the site of the lesions matters much more than their nature, the explanation may be sought here. Laughing is seen particularly in double hemiplegia, especially of luetic origin, but may also occur in cases of multiple sclerosis, cerebral trauma or multiple tumors, whereas weeping is more often associated with arteriosclerotic lesions in the basal ganglia and multiple infarcts in the subcortical white matter. Occasionally the symptoms may follow a single ictus, but there is often reason to believe that minor lesions are also present in the opposite hemisphere.

To understand how focal lesions of the brain may produce this dissociation between voluntary activity and involuntary emotional expression, it is necessary to inquire a little into the physiology of the so-called facio-respiratory mechanism, the best review of which is given in the excellent paper of Kinnier Wilson.¹ Both the muscles of expression and those of respiration are under a certain degree of volitional control, although they normally function automatically, and can be moved independently in quite a variety of ways. There exist, however, involuntary mechanisms with intermediate centers of control probably situated in the mid-brain or inter-brain that carry out coordinated acts of considerable complexity in a rather stereotyped manner during which volitional control by the cerebral cortex is largely in abeyance. I need only mention the common mutual activity of the facial and respiratory mechanisms concerned in the yawn.

1. Pathologic Laughing and Crying, *Journal of Neurology and Psychopathology*, 4:299 (February), 1924. Also Chapter 12 in *Modern Problems in Neurology*, New York, 1929, Wood, pp. 364. \$6.00.

and the difficulty with which the facial musculature is kept under control in trying to suppress it. Yet the yawn is essentially a respiratory act, having as its purpose the filling of the lungs with fresh air. Other involuntary acts that bring into play the combined systems are coughing, sneezing, panting, sighing. We are concerned more particularly with the activity of the facio-respiratory system in emotional expression. Anger, fear, rage and suffering are associated with disturbances in the expression of the face as well as by irregularity in respiration. Our interest, however, is centered in joy and grief, since these are the only ones whose pathologic expression is brought out by focal disease of the brain. Laughter consists, essentially, of tonic contraction of the facial musculature, associated with a characteristic disturbance of respiration made up of a long-drawn inspiration followed by a series of clonic expirations. Sobbing, on the other hand, consists of a series of clonic inspirations and a prolonged expiration. The facial contortion is often not dissimilar. Indeed, at certain stages it is almost impossible to make out from their facial expression whether our patients are laughing or crying. In other emotional or mimetic expressions the respiratory activity shows no such characteristic disturbance, although irregularity, rapidity and shallowness may be present.

Investigators in neurophysiology have disclosed certain extrapyramidal centers and tracts for respiratory movements that seem to explain the disturbances seen in the patients we are dealing with. Stimulation of one of these results in respiratory arrest; of the other, in respiratory acceleration. Moreover, Graham-Brown, upon stimulation of a small area in the cross section of the mid-brain, provoked clonic expirations with the emission of sounds that were "very similar to the 'Ha, Ha, Ha,' of the laughing chimpanzee," and were associated with retraction of the corners of the mouth. As Wilson states: "There are corticofugal paths to facio-respiratory centers in the pons and medulla that are independent of cortico-ponto-bulbar tracts to the same nuclei; on excitation they will either arrest or accelerate, i. e., interfere with normal rhythmic activity of the respiratory center; the available evidence warrants the speculation that they are the routes taken by emotional impulses to modify the facio-respiratory synkinesis in the

direction either of laughter or the reverse. Their exact course remains for further determination; it is perhaps noteworthy that they make their way separately towards the midline, skirting the lower optic thalamus (in the case of one) and passing by the lower regio subthalamica to the tegmentum, and so to more caudal levels of the neuraxis."

It is particularly in patients who, through organic disease of the brain, have lost, at least in part, the voluntary control of the muscles of expression on both sides that the automatic or involuntary mechanisms come into uncontrollable play, giving rise now to laughter, now to crying.

Some authors have postulated the destruction of the thalamus in cases of pathologic laughing and crying, while others have been equally insistent upon its integrity, arguing that it is release of the thalamus from control that permits the display of these emotional manifestations. It would seem, however, that if concerned at all, the thalamus is merely a way-station, since the extrapyramidal tracts have been traced directly to the cortex. The inhibiting pathway arises in the region of the olfactory trigone on the under surface of the frontal lobe, while the exciting pathway begins in the sensory cortex. The tracts lie separated from the internal capsule, coming together at the medial aspect of the thalamus.

The foregoing considerations allow us to take up the question of the emotions in relation to emotional expression. Some of the foremost psychologists of the last century believed that emotional feeling-tone was consequent upon the bodily changes that gave it expression.—to put it crudely, that we were happy because we laughed, that we were sad because we wept. They argued that an actor had only to contort his face to become sad or gay as the occasion demanded. Lange and James gave this theory an attractive form by postulating a hook-up with the involuntary nervous system, and believed that we experienced feeling-tone because of the visceral and other changes that went on in the body. "What kind of an emotion of fear would be left," says James, "if the feelings neither of quickened heart-beat nor of shallow breathing, nor of weakened limbs, neither of goose-flesh nor of visceral stirrings, were present, it is quite impossible to think. Can one fancy a state of rage and picture no ebullition of it in the

chest, no flushing of the face, no dilatation of the nostrils, no clenching of the teeth, no impulse to vigorous action, but in their stead limp muscles, calm breathing, and a placid face?"

Sherrington has punctured this rhetorical balloon, however, by cutting off afferent stimuli from the whole body, inside and out, behind the shoulder, and by pointing out that his animals still showed plenty of emotional reactivity. Moreover, Cannon has indicated that the visceral changes in emotional states of fear, rage, grief and pain are practically identical. That the emotions are not dependent upon facial expression is proven by very keen emotional feeling-tone without a trace of muscular activity in cases of bilateral facial paralysis.

Probably the strongest argument against any so-called peripheral theory of the emotions comes from the cases with which we are dealing. Wilson asked one of his patients with multiple sclerosis whether he had any difficulty with his bladder. "Replying in the affirmative, he added that he had already 'ruined four pairs of trousers,' and went off into an apparently interminable series of peculiar hollow laughs, which convulsed the whole ward as well as himself. So facile had the mechanism become that he would laugh whenever he began to speak, as though the stimuli of contracting muscles were sufficient to set it off." Surely his situation did not warrant the mirth it provoked. Another of Wilson's patients laughed aloud when reading the war news, and the more serious the news the worse his attacks were. A third, whose case was reported earlier by Beevor, showed, in addition to severe involuntary laughing, complete loss of voluntary control over the face so that he could not even be fed. "The house physician used to sit at the foot of the bed and yawn deliberately. Eventually the patient caught the infection and yawned automatically, whereupon the Sister of the ward promptly took the chance of popping food into his mouth." This same patient visited the performance of a peripatetic quack who was "touring the minor music halls of London and claiming to cure all and sundry complaints by means of electricity. Diagnosed as hysterical by the electric 'expert,' he was submitted to a series of violent and painful electrical applications, but the more they hurt

the more he laughed, till at length he was quickly hustled off, and on his return the following evening was refused admission." "Giannuli's patient walked about the hospital with his eyes glued on the ground; if he so much as raised them to meet anyone else's gaze he was immediately overcome by compulsory laughter, which sometimes lasted four or five minutes. Brissaud recounts the history of a patient of his, an intelligent hemiplegic, who was told incidentally by a lady that her little dog was dead; in a moment the fountains of emotion were opened; a mournful visage was succeeded by tears, tears by sobs, and sobs by a Rabelaisian effect on his sphincters" (Wilson). Brissaud tells of two patients next each other in the ward. One would begin crying and make such a fearful grimace that his companion would be set off into gales of laughter, whereupon the former would break out with an equally phenomenal roar of laughter, though his tears and his lachrymose physiognomy remained through it all.

The emotional exhibition in these cases is out of all proportion to the exciting stimulus, is of avalanche type, frequently following not only altogether trivial and inconsequential stimuli, but often being the exact reverse of the response that should be called forth. The expression usually does not correspond at all with the feelings of the patient. He is apt to be very much distressed by his unseemly mirth or grief, makes valiant efforts to control its exhibition, is embarrassed, annoyed and ashamed of his weakness. Laughter of this type does not bring with it any feeling of pleasure, and the same is generally true of weeping, although some patients, after a prolonged series of tearful howls are genuinely depressed on account of their distressing infirmity. Usually, however, a single crying spell is associated with no distress. Moreover, the exhibition is not just the shell or simulacrum of the normal response. Suffusion of the face, shaking of the sides, tears and exhaustion follow in the train of the avalanche of feeling demonstration. These patients show all the symptoms of extreme gaiety but are not happy, show the utmost manifestations of sorrow but are not sad. Emotion, therefore, is something utterly disconnected in these cases from its expression.

We are dealing, then, with patients who for one reason or another have suffered some dis-

turbance in the volitional activity of the facio-respiratory mechanism, and are, therefore, unable to exert control over the involuntary activities that are normally set off by appropriate stimuli. Laughing and crying then become automatic acts, set off by minimal stimuli, and they no longer show any harmony with the emotional feeling-tone of the patient. We may conclude, therefore, that emotional display and emotional feeling-tone are not always linked to one another, which, taken in conjunction with other observations, throws out of consideration the validity of the Lange-James theory of the emotions.

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ACUTE GANGRENOUS APPENDIX AND STRANGULATED HERNIA IN A FIVE WEEKS OLD BABY.*

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History.—On January 17, 1930, one of my patients went into labor spontaneously about five weeks before she was due. After the first stage of labor was at an end, I delivered a baby boy by Potter's version at the Memorial Hospital, this city. Examination of the baby verified that it was not a full term child. Baby was measured and weighed, the weight being 5 lbs., 12 ozs. It was then put in a premature jacket.

Physical examination of the baby at the time of delivery revealed a moderate sized umbilical hernia and an unusually large right inguinal hernia. These conditions, and also the fact that it was a premature child, were told to the mother. At the end of thirty-six hours, patient was discharged from the Hospital. Both baby and mother at that time were doing all right. The inguinal hernia, on account of its large size, was shown to the mother with full instructions to keep me posted about it. On February 23rd the mother noticed that the baby was crying much more than usual, and that it was nauseated and vomiting. This persisted and she discovered in the late afternoon of the same day that there was a big mass in the right side that extended down into the right scrotum. I was called and examination showed the right hernial sac to be filled with what appeared to be the intestine. By holding the baby up by the feet and supporting the head at an oblique angle, after some

difficulty, the hernia was reduced. When this was reduced the baby ceased to cry. A very short time after this the same mass appeared on the right side. The parents did not become alarmed about the child, but gave it paregoric and kept it quiet through the night, but it vomited several times during the night. The next morning when the baby nursed, it vomited apparently everything it had taken. The bowels would not move. About 5:30 P. M. I was called. The baby's abdomen was greatly distended, and the mass that was seen the night before on the right lower side was very much larger, and was hard and firm. Baby was crying as if it were in intense pain. It had been given several enemas during the day, with no results. Effort was put forth to reduce the hernia. This was futile. The baby looked as if it were going to die. It was very easy to observe peristalsis in the abdomen. The abdomen was so tight that it looked as if it might break at any time. Baby was greatly dehydrated. In the face of this very serious condition I advised operation, at the same time indicating that prognosis was very grave. Parents agreed to operation. Baby was removed to the Memorial Hospital on the evening of February 24th. At 8:30 P. M. under ether anesthesia, baby was operated upon. Duration of operation was eighteen minutes. A very short incision was made over the inguinal region. The sac was opened. This was very thin. The intestine was firmly packed through the inguinal ring until it was necessary to cut the ring before hernia could be reduced. It was impossible to dissect out the sac as we usually do in hernia operations. This sac extended down into the scrotum. With considerable effort parts of the small and large intestines, which occupied the hernial sac, were gradually reduced. In reducing this it was discovered that the appendix had become adherent to the hernial sac and was gangrenous. The appendix was removed. It was impossible to dissect out the sac, so the peritoneum at the inguinal ring was closed by continuous plain sutures. The fascia was then sutured and the skin closed.

In a short time after the operation baby ceased to vomit and it had good bowel movements. The temperature at the time baby was operated on was 103; pulse was so rapid that it was impossible to ascertain the rate of it; the respiration was very rapid. The day fol-

*Read before the Danville-Pittsylvania Medical Society, April 8, 1930.

lowing operation the baby took its meals regularly without vomiting; it immediately began to feel better; also temperature came down to 102.2 and in the afternoon it was 99.8. At the end of the second day the temperature was 99.6; at the end of the third day temperature ranged from 100 to 99.2; and at the end of the fourth day it ranged from 99.2 to 99, and on the morning of the fifth day the baby was discharged from the Hospital with temperature of 99. This baby made an uneventful recovery from the operation and a recent examination indicated that the hernial ring was closed and apparently the hernial sac, which was not removed, had atrophied. The last examination, which was made three or four days ago, showed that the baby had increased in weight very markedly, the weight at this time being 8 lbs. It is taking plenty of food, sleeping well, and is perfectly comfortable.

Conclusions.—I report this case because in my practice it is rather unusual. I have had to operate on several babies from seventeen months to three years old for congenital strangulated hernia. I had to operate on two babies under two years old for acute appendicitis, but I have never had a combination of strangulated hernia and gangrenous appendix in any of these cases. I believe we should look more hopefully at such cases for a proper diagnosis, and proper operation will save these little folks.

There are three things of importance which we should make note of. The *first* is to give just as little ether as possible. It is not as necessary to have these little folks completely relaxed as it is with patients larger and older. The *second* thing is to operate early, and the *third* thing is to operate quickly. Minutes count in this type of condition, and the quicker the operation can be performed, the better.

In this connection I would like to emphasize the importance of complete physical examination of each new-born baby. Find these abnormalities out and report them to the mother. I feel if I had not made complete examination in this case and informed the mother as to what to expect, the probabilities are that she would have waited longer than she did to call a doctor, and, of course, if she had, the chances of saving this baby's life would have been lost.

TEN YEARS OF PROGRESS IN TUBERCULOSIS.

By WYNDHAM B. BLANTON, M. D., Richmond, Va.

Ever since tuberculosis was recognized as a preventable disease, tremendous efforts have been put into the national anti-tuberculosis fight. No disease, not excepting cancer, has so aroused the public. Specialists, endowed institutions, the National Association, the State, present a formidable array of agents whom we have called upon to stamp out the white plague. This ceaseless campaign is being waged not without some noise and propaganda, but the statement is cheering that in the last decade the mortality in the registration area of the United States has been reduced from 130 to 80 per 100,000. The question naturally arises, to what has this notable reduction in mortality been due? Have we made a corresponding advance in our understanding of the disease and in our phthisiotherapy or is the gain entirely along the line of prophylaxis? The answer is that in the field of tuberculosis some very worthwhile things have been accomplished in the last ten years. To take stock is well worthwhile.

BACTERIOLOGY

The tubercle bacillus was identified and its etiological connection with consumption established in the very dawn of bacteriology—Koch, 1882. Its peculiar staining qualities were immediately recognized and the value of sputum examination was quickly accepted by everyone, not excepting the laity. Trudeau in the early years was literally overrun with sputa that came to him with every mail, so confident was everyone in the accuracy of a bacteriological examination. Anyone with symptoms or with just a dread of this disease spat in a bottle, sent it to Trudeau and awaited the result with resignation. Most of us thought that everything that was worthwhile was known about the tubercle bacillus. Not so. Within the last few years a prodigious amount of research has centered about this organism. Within the last eighteen months more than twenty-three articles have appeared in the *American Review of Tuberculosis* alone, on the bacteriology of tuberculosis. Much light has been thrown upon culture methods, the chemical constituents of the bacillus, the nature of its granules and the possible filterability of this organism.¹ Two outstanding contributions have been made. It has been fairly well established that the tubercle bacillus

can be dissociated into two types. The so-called R type appears in rough colonies on suitable culture media and is non-virulent. The S type presents smooth colonies and is virulent. Attenuation of a strain by long artificial cultivation tends to produce more of the R types. Repeated animal passage tends to a predominance of the S type. It has been shown that under suitable conditions these types may be converted into one another. Petroff and his collaborators have been largely responsible for this work.²

The other bacteriological advance has been in the prophylactic possibilities of Calmette's BCG vaccine. This is an avirulent strain of tubercle bacillus, recovered a number of years ago from a heifer, and is said to be incapable now of producing tubercles. Living cultures of this organism are fed to infants, preferably within the first ten days of life. This method of preventing tuberculosis has been widely practiced on the continent. Within the last five years, a hundred and thirty-two thousand children have been vaccinated in France, and recently eight thousand in Bucharest, without harmful results. The results are expressed in Calmette's own words "Mortality from all causes among the non-vaccinated children (birth to four years) was 21.4 per cent (of which 15.9 per cent were tuberculous) while the mortality from all causes among the vaccinated children was 11.8 per cent (of which 3.4 per cent were tuberculous). These figures were obtained from 2,368 vaccinated and 4,854 non-vaccinated children from one to four years, all born and brought up in tuberculous surroundings."³ Petroff and others have violently attacked Calmette's procedure as dangerous and his results as unconvincing.

RESEARCH

An extraordinary amount of research has, of course, been carried on in tuberculosis in the last ten years. The group research work sponsored by the National Tuberculosis Association has taken as its work the tissue reactions to the tubercle bacillus. A good deal of work has been done on the reaction of the blood and it has been pretty definitely shown that a monocyte increase and lymphocyte decrease is characteristic of this disease. The monocyte-lymphocyte ratio is possibly the index of resistance in tuberculosis. Finally, the work of the Rockefeller Institute in testing the tissue reactions of the fractions of the tubercle bacil-

lus have been in line with the new chemical studies of this organism. It has been definitely shown that the lipoids when injected produce tubercles which cannot be discriminated from actual tuberculosis.*

X-RAY AND EARLY DIAGNOSIS

Interest in tuberculosis has centered for a long time in early diagnosis. This has been the cry of the specialists and full timers in this field. There was a time when the pulmonary apices were stressed in the search, to the practical exclusion of the rest of the lung. We were told that incipient tuberculosis (the earliest manifestation of the disease) was to be looked for here. An impressive array of diagnostic physical signs was evolved. The phthisiologist chatted glibly of Krönig's isthmus, lagging supraclavicular fossae, asymmetry, fine shades of dullness, harsh breathing, delicate changes in voice sounds, and faint crepitations. As Krause says "For a while there were some pretty flashy, as well as some ponderous reputations, built on a rather uncanny knack of making consumptives out of mortals who breathed over-harshly out of a patch with an impaired (to the examiner's ear) note at the top of the lung."⁴ The X-ray was disparaged, the claim being made that audible apical rales chronologically preceded roentgenologically demonstrated pulmonary lesions. Of late, however, these dogmas in regard to the apex have been rudely shattered by Assmann,⁵ Redeker,⁶ and others. It has been shown by these workers that the initial tuberculous localization is subapical or infraclavicular. In 1926, Assmann presented an impressive series of cases (chiefly physicians, medical students, laboratory workers, nurses) to show that the earliest lesion of so-called incipient tuberculosis was not at the apex but below the clavicle. Since that time the experts have steadily lost interest in the apex, which is now regarded as the site of old fibrous changes and cavities, but never the locus of an active process from which progressive disease advances. Subapical tuberculosis, on the contrary, represents the initial localization. There, in the adult, the disease begins as a small area of tuberculous bronchopneumonia (an exudative parenchymatous lesion). This lesion may heal spontaneously or it may caseate, break down into cavities or become fibrous. The adult suffering from this early

*Personal communication of Florence R. Sabin to Dr. S. A. Knopf.

type of tuberculosis has few symptoms and often no signs. The symptoms may be only mild cough, recent loss of weight, slight temperature and fatiguability, often insufficient to cause the patient to seek advice. Physical examination is incapable of establishing diagnosis in the early stage, and unless there is hemorrhage or positive sputum, the only certain method of diagnosis is the X-ray. This has been one of the outstanding achievements of the last ten years. Webb⁷ has recently made the statement that early tuberculosis can only be diagnosed by the X-ray and that when plenrisy, rales and hemoptysis occur we are dealing with a late and often advanced lesion. No examination of the lungs is complete without the use of the X-ray. We accept the statement of childhood implantation in the majority of human beings, yet few of us have seen or recognized clinically the phenomena associated with this implantation. We speak knowingly of calcified glands and foci as indicative of earlier infections though we possess few criteria which enable us to point with certainty to the time when these infections occurred. The indispositions of infancy, the numerous unexplained attacks of pyrexia in childhood are set down to teething, colds, grippe, but are more probably the clinical phenomena associated with the first engrafting of the tubercle bacilli in the child's lungs.

Our conception of juvenile tuberculosis⁸ or the hilum type of the disease is entirely an outgrowth of the X-ray. Without the X-ray we would know nothing of this interesting type of the disease, as it gives no physical signs. It would take us too far afield to describe the pathogenesis of this important lesion. Enough to say that there is an initial parenchymal focus, a triangular area of drainage toward the tracheobronchial lymph nodes and a subsequent enlargement of these nodes. The X-ray may disclose the primary pulmonary nodule or only the enlarged tracheobronchial nodes but, after all, it is important to remember that the X-ray diagnosis of juvenile pulmonary tuberculosis rests, not on the demonstration of these enlarged glands but on the presence of calcification in these glands.

In speaking of the advance of X-ray technique and of its contribution to the understanding of pulmonary pathology, it should be remembered that the X-ray should never be allowed to become a substitute for a careful history and a painstaking physical examina-

tion. It is invaluable in determining the position, extent and type of a lesion. In early and in juvenile tuberculosis it is the only diagnostic method of worth at our disposal.

REST

A better understanding of the regimen of regulated rest and exercise has come about in the period under consideration. Miller⁹ in a recent extended article emphasizes the necessity for these essential features of treatment. When balanced with climate they are of far greater value. They may be instituted in any climate. A good climate makes the open air enjoyable and beneficial, but is not essential. Belief in the value of graduated exercise and of protracting the rest as long as possible has grown. Changes in physical signs are no longer considered safe guides to discontinuance of rest. Improvement in symptoms and X-ray evidence of healing are chiefly relied upon. In stressing the necessity for rest, Webb has advocated enforced lateral decubitus and the use of shot bags over the apices.

The external immobilization of the lung has called forth a great variety of apparatus which is now upon the market. Knopf has described a type of slow, diaphragmatic breathing which is designed to rest the upper lobes. The greatest achievement in this field during the last decade has been made in the surgical procedures that have been developed to secure pulmonary immobilization. Pneumothorax, the first and most useful of these, of course dates back to the time of Forlanini,¹⁰ but since Ascoli,¹¹ 1912, led the way, we have learned that bilateral compression instead of being contraindicated is often a procedure of value; that bilateral disease does prevent collapse of the contralateral side, and finally, that low pressure, rather than high pressure pneumothorax is preferable. Pneumothorax has made progress in the last ten years with a better understanding of its uses and limitations, but the greatest advance has come in the newer pulmonary surgery. Procedures which ten years ago were regarded as too dangerous to recommend have established themselves as a necessary part in our fight against this disease. Phrenectomy, thorocotomy, externalization of the lung, cauterization, lobectomy, have all become procedures of value to the tuberculous in the hands of those skilled in thoracic surgery. The high mortality which still attends surgery of this type is a serious deterrent in the aver-

age case. The surgeon maintains that the technique of thoracic surgery has been perfected and side-steps the high mortalities by declaring that cases must be more carefully selected. The type of case which is said to be suitable for thoracic surgery is the extensive, long standing, unilateral lesion of the fibro-caseous, ulcerated type, with X-ray and clinical evidence of the development of connective tissue and retraction. Undoubtedly, thoracic surgery in the best hands is doing much to salvage human health, but the price in human lives is still heavy.

DIET

Formerly we were told to feed the tuberculous with little regard to what or how. Quarts of milk and dozens of eggs were poured into them. They were stuffed like the Strassburg goose, but instead of curing his lungs we often succeeded in upsetting his stomach. It was quite natural that a reaction should come. Within the last ten years significant changes have been wrought in our ideas of diet for the tuberculous. We are now concerned more with qualitative than with quantitative factors. Our new dietary ideas have come out of Germany. They are chiefly based on the work of Gerson.¹² This worker has reminded the profession that proper nutrition plays an important part in the defense mechanism of the body against infection. The most powerful weapon in the fight against tuberculosis is the physical and dietary management of the disease. Gerson bases his diet on several known facts; first the elevation of the basal metabolic rate in tuberculosis—often as high as 86 per cent; second, the demineralization of the body that is associated with this disease (as pointed out by Robin); third, the empirical knowledge that sodium chloride is rapidly excreted in tuberculosis and when taken in excess appears to be injurious.

The ideal diet for the tuberculous is rich in protein, fat, vitamins, and minerals, poor in carbohydrates and sodium chloride. Gerson prohibits common salt, preserves, salt fish and meat, vinegar and bouillon cubes. He advises moderation in fresh meats, alcohol and tea and coffee. He recommends in large quantities milk, salt-free butter, fruits, salads, and vegetables. He advises that the total caloric value of the diet range between 45 and 50 calories per kilo. The best results from this type of diet are obtained in skin and bone tuberculosis,

but in pulmonary tuberculosis improvement is noted in weight, fever, pulse, and sputum.

INTESTINAL TUBERCULOSIS

The early diagnosis and treatment of intestinal tuberculosis is thought by some to constitute one of our real advances in the last decade. Attention has been directed to this by Lawrason Brown¹³ and his co-workers. They point out that tuberculous enteritis gives characteristic X-ray findings and that the early diagnosis cannot be made certainly without the use of the X-ray. Erickson,¹⁴ in a study of one hundred cases of intestinal tuberculosis complicating pulmonary tuberculosis, showed that this complication usually occurs early (within the first three years), that a history of previous intestinal symptoms was present in 58 per cent of the cases and that the symptoms of this complication in the order of their frequency were abdominal pain (71 per cent), nausea (66 per cent), and general digestive disturbance (47 per cent). This author¹⁵ has also reported on the very effective use of ultraviolet light in the treatment, the great majority of patients becoming symptom-free in one to three months. The early diagnosis of intestinal tuberculosis, like the early diagnosis of pulmonary tuberculosis, is difficult. As a late complication it is well known, being found in 75 per cent of autopsies on the tuberculous. In the light of Brown's work it should be looked for in the early stages of the disease, the only period when successful treatment can be instituted.

CHILDHOOD PROPHYLAXIS AND PREVENTORIA

Tuberculosis is in the vast majority of cases the result of a childhood implantation. Adult tuberculosis arises from a reawakening of this initial focus or perhaps occasionally, as Opie believes, from a reinfection from without. Opie's beliefs are founded upon the frequency with which he finds living tubercle bacilli at autopsy in the apex of clinically healed tuberculosis. Infants infected with tubercle bacilli during the first year usually die. After this, the size of the dose and the resistance of the patient determine the issue. If the dose is small or not repeated too frequently (repeated small doses amount in the end to an overwhelming large dose) the child's chance of survival is a matter of his immunity, which is in turn largely controlled by his environment. The problem of childhood prophylaxis against tuberculosis, therefore, is one of mini-

mizing the dose, preventing repeated doses, and building immunity by food, fresh air, rest and hygiene. These conceptions, arising largely during the last decade, have expanded into a widespread program of prophylaxis, and have resulted in the establishment of numerous preventoria. The program of these institutions is exemplified in the Ramsey County (Minn.)¹⁶ Preventorium. Here children are accepted between the ages of five and twelve. They must have been exposed to tuberculosis, exhibit positive tuberculin reactions, and appear generally below par. Once accepted into the preventorium, they sleep and play in the open air. Their activities are supervised to prevent the harmful effects of fatigue, non-tuberculous foci of infection are eradicated, carefully balanced diets are provided, and open air schooling is given. When the children are finally dismissed, a careful follow-up system keeps in touch with them. Of two hundred and twenty-three children who have been through this preventorium since 1915, only two have come down with active tuberculosis. The last ten years has brought no more significant advance in the field of tuberculosis than this prophylactic work among children.

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A SECOND BUT DIFFERENT TYPE OF CARCINOMA DEVELOPING IN THE SAME UTERUS.*

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It is the purpose of this article to describe two cancers of the same uterus entirely distinct, occurring within a period of two years. The original growth in the cervix was a squamous cell epithelioma. Later an adenocarcinoma developed in the body of the uterus. It is extremely rare to see this combination. Murray¹ described a case in which both types co-existed in a uterus. Cases of these two types occurring in the body of the uterus have been reported by Kaufmann,² Emanuel³ and Hofmeier. In view of the undoubted rarity of this combination, it is considered worth while to add the following case to those already on record.

REPORT OF CASE

History.—Mrs. M. D., age fifty-one years, consulted me February 16, 1927. She complained of uterine bleeding of very offensive odor. Menopause one year ago. For five months she has had a leukorrheal discharge which has gradually become watery, and for two months has been blood stained.

No history of cancer in the family.

Has had six children all living and well.

General health has always been good. No serious illnesses or operations.

Examination.—February 16, 1927. Temperature 98.6. Pulse 76. Respiration 20. Blood Pressure 160/90. Patient is a well nourished white woman and shows no evidence of having lost weight. Examination entirely negative except for the pelvic findings. On

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bimanual examination cervix enlarged and indurated; bleeds easily. Uterus normal in size. Fallopian tubes normal. Ovaries not palpable.

February 22nd. Patient was admitted to the hospital for a more complete investigation.

Blood Wassermann negative.

A diagnosis of epidermoid or squamous cell carcinoma, grade 3, was made from a section taken from the cervix. There are seen solid masses of epithelial cells showing very little differentiation. (Fig. 1). Growth intra-cervical; parametria clear.

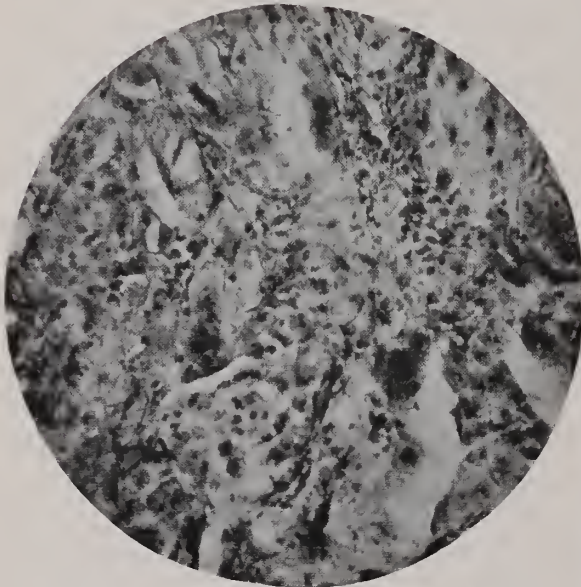


Fig. 1.—Photomicrograph of squamous cell carcinoma of cervix—grade 3.

February 23rd. Patient was given 2,500 milligram hours' radiation in and on the cervix.

Subsequent Progress.—For various reasons the patient could not easily come to the hospital for observation. Examination made three months from the time of the radium therapy found the cervix somewhat firm but not enlarged. The bleeding was checked entirely for over a year. Patient did not return until December, 1928. She gave a history of bleeding for about three weeks, but had noticed a small amount four months previously. She was again admitted to the hospital and under nitrous-oxide anesthesia scrapings were taken from the uterus. Examination of these showed adeno-carcinoma of high grade malignancy.

Remarks on Treatment.—While it is sometimes possible to clear a condition of this na-

ture by the use of radium, operation is a much surer and safer method. A panhysterectomy was advised. The danger of using radium in these cases is that sometimes the cancer grows far into the uterine wall and when used there may be a slough and an opening into the peritoneal cavity. This would cause a fatal peritonitis. Radium is valuable, however, in inoperable cases.

Operation.—A panhysterectomy was performed on January 3, 1929. Peritoneum normal. No nodules found in the broad ligaments, or metastasis to the ovaries or the liver. The uterus was about normal in size. Fallopian tubes appeared normal. Both ovaries small.

Convalescence uneventful, patient leaving the hospital on the twentieth day following the operation.

Pathological Findings.—

Gross: Uterus measured 8 cms. in length.

Sagittal section shows the cancerous area along the mucosa distinctly raised and irregular. There are sprout-like vegetations especially near the growing margin. (Fig. 2).



Fig. 2.—Sagittal section of uterus showing adeno-carcinoma.

Fallopian tubes normal.

Ovaries small and atrophic.

Microscopic: Section taken through the

uterus including the endometrium shows adeno-carcinoma invading the uterine wall of high grade malignancy—grade 3. There is a marked increase in glandular epithelium, showing irregular distribution. The cells are enlarged. Stroma shows infiltration of leukocytes and round cells. (Figs. 3 and 4).

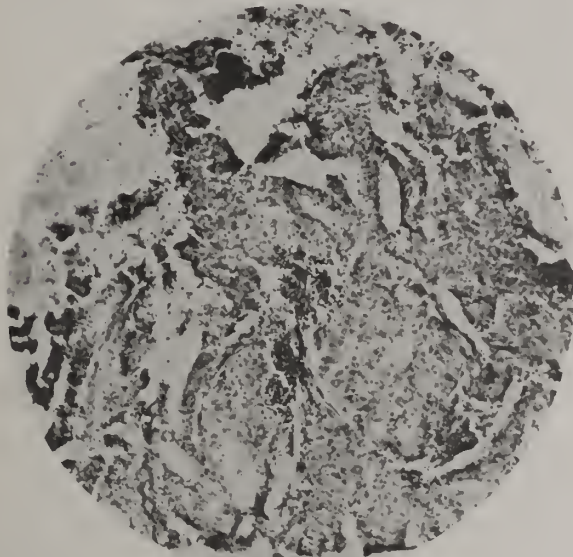


Fig. 3.—Low power photomicrograph of adeno-carcinoma of body of uterus—grade 3.

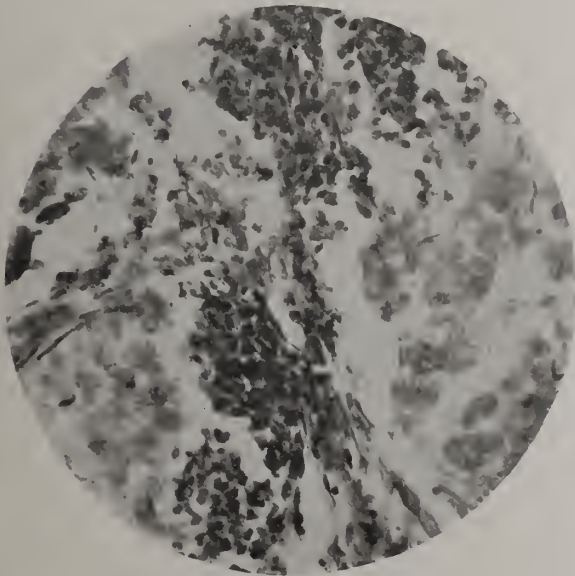


Fig. 4.—High-power view of Fig. 3, showing highly malignant cells.

Fallopian tubes show slight inflammatory reaction. No evidence of malignancy.

Ovaries atrophic. No evidence of malignancy.

Section through cervix at level of internal os shows normal cervical tissue, absence of racemose glands. No evidence of squamous carcinoma that existed less than two years before.

Progress.—Patient has had six high voltage X-ray treatments since the operation. Examination made January, 1930, shows no evidence of any malignant implant. Patient appears to be in excellent health.

Comment.—The case reported by Murray is very similar to that described in this article except that radium was not used in the cervix. His patient was a multipara aged fifty-three years. Menopause eighteen months previously. Foul blood stained discharge for four months. Uterus was enlarged and there was found a nodule on the cervix thought to be a small retention cyst. A panhysterectomy was done. The specimen showed two different types of growth: (1) A fungating growth in the corpus; and (2) A dense infiltration extending from the external os upwards for two and one-half inches. Above is an adeno-carcinoma typical of that in the body, while lower down is the usual squamous cell carcinoma. It was concluded that the nodule on the cervix was obviously an area of squamous cell carcinoma not yet broken down.

There has been some difference of opinion in the interpretation of the cases reported by Kaufmann, Emanuel and Hofmeier. Frank⁴ states that the cases reported by them are adeno-carcinomata which exhibited extensive flat cell metaplasia of the tumor cells. Frank⁵ also states that up to 1922 no case of double squamous and adeno-carcinoma had been recorded.

Conclusions.—It seems perfectly possible for the development of an entirely distinct cancer in the body of the uterus to precede, follow, or co-exist with a cancer of the cervix. It seems reasonable to conclude that the case mentioned in this article was one in which the adeno-carcinoma of the body of the uterus developed after the cervix cancer. In either event the condition is very rare. It is not very uncommon to see two cancers, such as breast and uterus in one person, but to see two different ones of different types is extremely rare.

Summary.—Three points of importance are brought out in the above case:

First: That two distinct types of cancer may develop in the same uterus.

Second: That one type may be cured by radium before the other develops.

Third: That it affords additional evidence that radium is the treatment of choice for the vast majority of cervix cancers.

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DISCUSSION.

DR. KENNETH D. GRAVES, Roanoke, Va.: I have found Dr. Huff's paper extremely interesting. In going over the records of the Lewis-Gale Hospital since 1919, I do not find a single case similar to the one described by him. These cases are extremely rare.

Cancer of the cervix arises either from the cornified epithelium resembling the epithelium of the vagina; from the thickened epithelium covering an eroded area; or, from the columnar epithelium deeper in towards the os. The cornified epithelium structures give a cancer containing typical perles or nests of cornified epithelium, while the squamous epithelium of the columnar type does not produce these whorls.

It is practically never observed that a squamous cell cancer extends beyond the internal os of the cervix to invade the fundus of the uterus, either by direct continuity of growth, or by metastasis. If there is a spread of the cancer it is carried by the lymphatics forward to the bladder, backward through the ilio-sacral ligaments to the rectum and downward into the vagina. On the other hand, spread of cancer of the body of the uterus usually involves only the parametrium locally and then extends to the other organs of the body.

I have been over Dr. Huff's sections of the cancer of the fundus of the uterus and thoroughly agree with him that they show adeno-carcinoma.

DR. CHARLES LUCAS, Roanoke, Va.: The case just reported by Dr. Huff has been most interesting. It is without doubt extremely rare to observe two cancers of different types occurring in the same uterus. Radium is the outstanding treatment for cervix cancers and I shall say a few words on the use of radium. The superiority of radiotherapy over operative procedure has become so universally accepted that arguments championing it are unnecessary. The results in the large clinics where radium and deep X-ray alone are used, have proven superior to massive cauterization, Percy's cooking technique with the hot soldering iron, and to the drastic Wertheim operation with its primary mortality of 20 to 50%. There should be no primary mortality in the application of radium, and when applied intelligently it offers the best prognosis, causes a shorter hospitalization, and eliminates much suffering.

The technique of treatment is rapidly approaching standardization. However, there are those who still cling to their own modifications, believing theirs to be the only method. Statistics as to methods prove nothing, because the personal equation is not a constant, and, regardless of the honesty of an individual, a pet technique looms paramount to all others and statistics vary accordingly. The degree of involvement of cancer of the cervix may be divided into four hypothetical stages: Early, when the disease is limited to the portio vaginalis; Borderline, when it has involved the adjacent vaginal wall; Advanced, when it has invaded the broad ligaments; and the "Frozen Pelvis," when there is a fixation of the organs with massive invasion.

Treatment is indicated only in the first three cases.

Biopsy should be performed as early as possible, as this assists in prognosis and indicates the proper dosage. The grading as to malignancy and as to radiosensitivity, are for all practical purposes identical. Each depends upon the amount of anaplasia. The more adult characteristics the cells have, i. e., squamous formation, large nuclei, scarcity of chromatin, absence of prickle cells, tendency to pearl formation, etc., the less malignant and the less radiosensitive. While the greater the lack of differentiation or the loss of normal structure, the more malignant and the more radiosensitive the tumor is.

Some authorities divide carcinoma of the cervix into three, others four grades, depending entirely upon their degree of differentiation. But it is easier to omit the lines of demarcation and to think of an individual case as lying somewhere between the least malignant adult type and the most malignant embryonal type and to recognize the fact that grades I, II, III, and IV, or adult, plexiform, anaplastic and embryonal are not distinct types, but an effort to group similar degrees of malignancy. The above grading applies only to the squamous cell type as the other type occurring in this location, adeno-carcinoma arising from the mucus secreting glands, comprises less than 5%. In the intelligent application of radium a knowledge of the physics of radiotherapy is extremely important. Radium has fallen into ill repute in many sections of the country due to harmful usage by the uninitiated.

The penetration of the gamma ray is infinity, and death to normal tissue can be easily produced. Yet one should bear in mind that it is the last 10% of a correct dose that destroys the tumor and not the first 90%. When an adult type of carcinoma is being treated, the difference between its lethal dosage and that of normal tissue is small indeed while in the anaplastic type of cancer a dosage sufficient to destroy the malignant cells, several cms. from the locus of radiation, can be given with little destruction of the normal tissue.

The method of application is simple. It consists of inserting the radium into the cervical canal, enclosed in a container which is, or is equivalent to, two millimeters of brass, which filters out all the alpha rays and 99.6% of the beta rays and only allows the gamma rays access to the tissues. The beta rays produce a caustic action upon the adjacent cells and a systemic action upon the patient, hence the screening. When the gamma rays emerge from the metal container they give off a secondary beta radiation which can easily be eliminated by enclosing the metal container in a rubber tube. The dosage varies accordingly to the extent and degree of radiosensitivity. When in doubt over-radiate.

The dosage may be completed with one application. Some prefer splitting the dosage. The arguments.

pro and con are too numerous to mention in this short discussion.

The complications occur chiefly in the advanced cases and are recto-vaginal and vesico-vaginal fistulae, proctitis, mucous colitis, nausea and vomiting, cystitis, etc.

A menopause is always produced. The change in endocrine activity of the ovaries is not noticeable.

The complications in the advanced cases may be objectionable but we have a choice of several evils, a rapid and sure death if untreated, a high primary mortality with certain death if operated on, and a chance of annoying complications if radium is used.

Deep X-ray therapy should be given by the cross fire method; five points of entry centered on the cervix, with a 200 K. V. machine, 50 cm. focal distance, .5 m.m. copper, 1 m.m. aluminum screening, 5 milliamperes current given in suberythema doses. The patient should have at least two of these cycles completed within two months after the application of the radium. This type of treatment offers about a 45% five year cure in the early and borderline cases and a 11% five year cure in the advanced cases. While not ideal, it is, we believe, superior to all other methods.

Emphasis should be laid upon an early diagnosis and an immediate reference to those familiar with radiotherapy, for only by this cooperation will we be able to check this grim spectre which ranks second only to malignancy of the breast in frequency, and to control that little understood disease, cancer, which destroys in this country annually 100,000 people, which is steadily growing every year and which will lead one out of every seven in this audience today through that inevitable portal through which all must enter and none return.

DR. HUFF (closing): Dr. Lucas has mentioned that biopsy should be performed early. I wish to emphasize this, because before we study the effectiveness of any method of treatment for cancer, we must first decide that the lesion under treatment is cancer. A study of a section of the tumor histologically by competent persons is usually conclusive. A study of fresh and unfixed tissue sections is said to have an advantage over the fixed method in recognizing early cancers.

Whether we treat cancer surgically, or by radiation by means of X-ray or radium, much better results will be obtained if we recognize the disease in its incipency.

TREATMENT OF SOME SURGICAL INFECTIONS.*

By JAMES A. GANNON, M. D., Washington, D. C.
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The prognosis of every infection depends upon two factors; the virulence of the organism causing the infection and the resistance of the patient. In the treatment of surgical infection we must not lose sight of the fact that the human body is a laboratory which, when occasion demands, manufactures bactericides and neutralizing agents whose function it is to overcome the infecting bacteria and to preserve the integrity of the body. Racial

and personal immunity are brought about by previous battles with particular bacteria which have resulted in the formation of substances in the body which are deleterious to these bacteria when they again attack the body. If we keep in mind, then, the natural protective forces in the body, we will not be so apt to give undue credit to locally applied antiseptics and bactericides as some of us do according to current literature on the subject. Surprising improvement is reported from time to time in cases of septicemia which have had intravenous injection of mercurochrome or gentian-violet. The minute amount of the drug injected (20 c.c. of a 1 per cent solution of mercurochrome, for instance), compared with the volume of blood and bacteria indicate to me that the effect cannot be directly on the bacteria. I prefer to believe that the dye in some way influences the production of more antibodies as does the injection of foreign proteids in more or less chronic infections.

Did you ever incise a small superficial abscess and apply pure carbolic acid to its wall? Why did you do it? Did you expect to destroy any important percentage of the bacteria present by the application? If this was your intention, you did not consider the pathology of the condition. You did not consider that bacteria, leucocytes, and fibroblasts were all present in the indurated area surrounding the abscess; and that any application could only reach an insignificant few of the bacteria; and that those imbedded in the tissue are not directly affected by the phenol. If you applied the carbolic with the idea of irritating the area and to thus attract more blood and more leucocytes and more antibodies to the part, you were correct in your treatment.

Because of the short time at my disposal this morning, I will discuss the treatment of only a few of the surgical infections; and if some of my audience do not agree with me, discussion will be stimulated which will add interest to the meeting.

Cellulitis is an inflammation of the cellular tissues, especially purulent inflammation of the subcutaneous tissue. It may occur anywhere on the body, but, as an example, let us suppose that we are confronted by a palmar cellulitis. This causes a marked swelling on the dorsum of the hand from resistance of palmar fascia anteriorly. The tenderness is anterior. The

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finger motion is not restricted. The pus accumulates in:

1. The thenar space under the thenar eminence, deep in the palm, just above the adductor pollicis.

2. The hypothenar space is usually due to infection of the thumb, index finger or occasionally the ring finger. This should be opened by a dorsal incision parallel to the metacarpal bone of the index finger, at the radial side of the bellies of the interossei. Hilton's method is used and a hemostat or scissors is pushed between the metacarpal bones into the abscess. This avoids a scar on the palm and injury to the palmar arches. A palmar incision will be necessary, however, if the infection has entered through the palm.

3. Abscess of the hypothenar space is relatively infrequent and is opened by an incision parallel to, and on the ulnar side of the fifth metacarpal bone.

4. The mid-palmar space suppurates from infection of the ring or middle finger. It is limited by the middle metacarpal on the radial side and overstripped by the ulnar bursa on the ulnar side. It may be drained from the dorsum of the hand through the lumbrical space between the ring and middle fingers or by a palmar incision between the digital pads of these fingers peripheral to the superficial palmar arch. This classification is suggested by Babcock.

Drainage tubes should be inserted, and the hand may be soaked continuously during the time, when the patient is awake, in a hand basin placed convenient to the bed. The temperature of the solution should be maintained at about 110 degrees F., either by boiling the solution and adding more that is hot at frequent intervals or by suspending an electric light bulb in the solution, being careful that it does not come in contact with the hand. The solution may be normal salt, bichlorid, permanganate or potash or any other which the surgeon chooses. What is in the solution does not matter. The continuous moist heat is the important measure. The patient should be encouraged to move the fingers frequently. At night the hand is dressed dry and the soaking continued in the morning. It is usually necessary to carry out this procedure for two weeks or more, and the signal to stop is improvement of the condition of the hand and of the patient. Even under the best environment the

results in these cases are not happy, and the patient is fortunate indeed who has a 100 per cent useful hand in the end. Tendon sloughs, adhesions of joints, and tendons and fascia will interfere with normal use of the hand later.

A palmar abscess seldom is primary. Primary and efficient treatment for pyogenic infection of the fingers is necessary to prevent palmar abscess. We should never poultice abscesses. We should never temporize with pus. We do not save anything by doing so. The knowledge of the presence of pus calls for immediate action and that action is drainage. Finger infections should be widely incised and dressed with compresses soaked in salt solution and covered by an impervious material like oiled silk or waxed paper. The aim of the surgeon should be to keep the dressing so wet that when the patient returns on the following day for redressing, the finger should be white and wrinkled like that of a woman who has spent the day with her hands in the soapy water of a washtub. Besides encouraging drainage in the dressings, the soaking of the finger abolishes the pain.

Another pyogenic infection which calls for somewhat different treatment is the boil or furuncle. A furuncle is a localized necrosis caused by pyogenic infection through a hair follicle or a sebaceous gland. I think that if we will consider a boil to be a localized necrosis caused by interference with the blood supply to the area with slow death of tissue, we will not make the mistake of many medical students who advise on examination papers to open by Hilton's method. The necrosis is there and after awhile nature makes a place of demarcation to cast out the slough. She does this by forming an area of liquefaction around the slough. When this process is complete, the slough or core is floated out of the skin, leaving a granulating surface which rapidly fills up and epithelizes over. This is the pathology of a furuncle.

The treatment depends upon circumstances. As a rule it is best to treat a furuncle with frequent, hot, wet applications (I like salt solution here also), with wet compresses under oiled silk between applications. The only reason for surgical interference should be great pain due to pressure on surrounding sensory nerves or toxemia. If these symptoms are present, the diseased area should be excised and dressed wet, or a crucial incision may be

made through the thickness of the skin followed again by wet dressing. Boils of the face, particularly of the upper lip, should never be incised because of the danger of embolic involvement of the brain or other organs through the general circulation. Of course, the patient should be investigated and treated also. Diabetes, anemia, nephritis, and so forth, should be eliminated as causative factors, or if found, appropriately treated. Vaccines are useful. Exclusion of sugar, regardless of urinary findings, and the administration of yeast is helpful. Poultices are dangerous because they macerate the skin and mechanically introduce bacteria from the furuncle to surrounding hair follicles and glands.

Lest the gynecologists feel neglected in this discussion, I have decided to include an infection in which they will be interested; and when I have described this my paper will be done. Endocervicitis, this godsend to the struggling gynecologist of the past. I hope you have not heard the story of a doctor who worked long and well in a community and was able to educate his son as a doctor. When the son finished his hospital internship, he took his father's practice while the old man took a brief rest in the mountains. In two weeks the father received a note from his son which said, "Dear Father: Do you remember Mrs. Smith who lived on the hill? While you have been gone, I have cured her of endocervicitis." The father replied, "Dear Son: Mrs. Smith's endocervicitis put you through college." All of which goes to show that in the past infection of the endocervix was intractable. In the light of more recent knowledge, however, this infection is treated with marked success. Gonococci and other pyogenic bacteria find lodgment in the lower two-thirds of the endocervix by inhabiting the glands which are found in this locality. The ducts of the glands run at a right angle to the lumen of the endocervix and, when once ensconced in the upper recesses of these glands, the bacteria defy local applications, douches, and other method of annihilation short of destruction of the glands themselves. The modern treatment for endocervicitis with its constant and annoying discharge is to destroy these glands, whether by excising them or by cauterizing with the actual cautery. It has been my habit for the past ten years to cauterize in the following manner: The gloved fingers are intro-

duced into the vagina and a bi-manual examination is made. If the uterus is adherent or if a tender mass is discovered in the pelvis, the cauterizing process is not attempted, and the patient is advised to have appropriate treatment for the pelvic condition. If there is no immobility of the uterus and no tender mass is found, a bivalve speculum is introduced; and the cervix is located. No anesthetic is used. A volsellum grasps the upper portion of the cervix, and it is drawn toward the vulva. The cold wire applicator of an actual cautery is pushed into the cervical canal for the distance of one and one-half inches, and the nurse turns on the heat by working the thermostat. This has previously been tried, and the dial stops when the wire becomes a cherry red. It is a mistake to use more heat than this, because white heat opens blood vessels and blood does not coagulate and stop hemorrhage as it does when cherry red heat is applied. This heat application is continued for five to ten seconds and the heat is turned off and the wire allowed to cool in situ and is then withdrawn. The patient states that cramping takes place during the heat application, which is no more severe than menstrual pain; and that the cramp stops when the heat is discontinued. This process is repeated in one month if the discharge has not entirely disappeared and sometimes in one month after this. I have had no case in a series of more than 400 which required more than three cauterizations to cure the endocervical leucorrhoea. Destruction of the gland bearing endometrium results in a much larger lumen for the cervix, which helps drainage and makes pregnancy more probable. A number of my patients have been delivered since cauterization, and I have had no reports of interference with labor. I have had six cases of hemorrhage following this procedure, the hemorrhage coming on in one to two weeks after the cautery, due to sloughing following the burns. This has necessitated packing the cervix with narrow gauze and the vagina with two-inch packing. This should be done at once because the patient mistakes the bleeding for menses and often loses too much blood before the hemorrhage is recognized.

May I make some conclusions:

1. Recovery from infection depends on the virulence of the infecting germ plus the resistance of the patient.

2. Antiseptics and germicides have little influence in combating infection.

3. Continuous wet, warm, normal salt solution compresses are comfortable and aid drainage.

4. Cure of pyogenic infection depends largely on efficient drainage.

5. The patient deserves a survey, and any abnormal underlying condition should be corrected. He should have proper nourishment, rest, and stimulation.

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LOBAR PNEUMONIA: DIAGNOSIS COMPLICATIONS AND SEQUELAE.*

By ERNEST G. SCOTT, M. D., Lynchburg, Va.

Bunyan's name for tuberculosis, "Captain of The Men of Death," is aptly used by Osler to describe the incidence and importance of pneumonia. At the present time it is second only to diseases of the heart and circulatory system as a cause of death.

Lobar pneumonia, also called fibrinous or croupous pneumonia, is defined as an "infection caused by pneumococcus, characterized by inflammation of the lungs, a toxemia of varying intensity and a fever which usually terminates by crisis."¹

The exciting, bacterial cause of lobar pneumonia is, in the large majority of cases, the pneumococcus. In a small proportion of cases, other bacteria are responsible, such as Friedlander's bacillus, the streptococcus, staphylococcus, influenza bacillus, etc. Friedlander's bacillus mucosus capsulatus obtained considerable newspaper notoriety recently as the finally identified cause of several very rapidly fatal illnesses in Southwest Virginia, near Christiansburg.

It might be worth while to briefly mention some of the recent work on the various types of pneumococci. Cole and his associates² at the Rockefeller Institute showed that there were three immunologically distinct types of pneumococcus and a fourth heterogeneous group. They gathered statistics on the incidence and mortality of the various types, which have been verified more or less by other investigators. Thus, they found the incidence to be about equal for types one and two, each being responsible for something over 30 per cent of pneumonia cases. Type three was found

in only about 12 per cent of cases, and type four in 24 per cent.

The mortality was greatest for the least common type, being about 45 per cent for type three, least for type four, or 16 per cent, and about 25 to 30 per cent each for types one and two. Types one, two, and three are more common in cities and type four in the country; this coincides with the well-known fact that pneumonia is more fatal in the city. Types one and two are rarely found in the mouths of healthy persons, whereas type three and especially type four is commonly found. In patients with a type four infection, the mildest type, there is usually a history of exposure or some factor lowering resistance; whereas in the other three types this is not usually the case. Types one and two, while rarely found in the mouths of healthy individuals, are frequently found in the mouths of contacts with such cases and in convalescents. Blake and Cecil,³ by experiments on monkeys, have cleared up many questions about pneumonia. They have been able to produce lobar pneumonia in monkeys, closely simulating human cases, by intratracheal injection of virulent pneumococci. Among the interesting facts brought out by their studies are the following: The chill, rise of fever, and leucocytosis all occur before any physical signs in the lungs; a bacteriemia occurs very soon after inoculation of the monkey; this is thought to occur very early also in nearly all human cases. The pneumonia always began centrally and spread fan-like to the periphery. Contrary to general belief, an attack of pneumonia does confer immunity to the particular type causing it, but not to the other types. That is, after infection with, and recovery from a type one, two, or three pneumonia, a monkey could not be infected again with that type. This, however, for some unknown reason, did not hold true for type four. This would indicate that repeated attacks of pneumonia in the same individual are due to type four infections.

Under predisposing causes of pneumonia, many factors may be considered:

Age.—Predisposition is high up to the sixth year, diminishes to the fifteenth year, then increases with each decade. The mortality increases with the age of the patient.

Sex.—In children both sexes are equally affected; in adults the disease is seen more often

*Read as part of a symposium on Pneumonia, before the South Piedmont Medical Society at Lynchburg, Va., on April 15, 1930.

in males in the proportion of three or four to one.

Race.—It is very common and very fatal in negroes. A strange fact is its rare occurrence among Chinese.

Season and Climate.—Pneumonia is seen as often in hot as in cold climes, but, in common with other respiratory infections, it is much more common in the winter and spring months than in the summer and fall. February and March are the months when most cases are seen. Quickly changeable weather is pneumonia weather.

Living Conditions.—It is seen more often and has a higher mortality in cities than in country districts. This is due supposedly to over-crowding, over-heated houses, poor ventilation, lack of sunlight, etc. The influence of over-crowding is shown in the experiences in Panama during the building of the Canal.⁴ Prior to 1907 the negro workmen were housed in barracks; during 1907 they were made to live in their own shacks. In 1906, the mortality among them from pneumonia was 18.74 per 1,000; in 1907, it was 10.65; in the next five years it was not over 2.6 per 1,000.

Epidemics of pneumonia have been recorded in camps, schools, prisons. I have mentioned the fact that contacts with a case often carry the particular type found in the patient. The incubation period in contact cases is short, from two to four days usually. Some hospitals consider pneumonia as contagious and isolate the cases. However, the contagiousness is certainly very slight. It is a fact that doctors and nurses very rarely contract it from attending a case.

Personal Factor.—Robust, healthy men are often attacked but the debilitated person is particularly susceptible, for example, those with tuberculosis, nephritis, cancer, arteriosclerosis, heart disease. Acute fatigue may be the precipitating cause, and the frequency and severity of pneumonia in the chronic alcoholic is proverbial.

Trauma.—A small percentage of cases follows a trauma to the chest, without necessarily any lung injury. Pneumonia may thus come under the Workman's Compensation Act.

Previous Attacks.—Pneumonia is similar to diphtheria and erysipelas in that one attack does not confer an immunity but, on the contrary, is thought to predispose to further attacks. Benjamin Rush reported a case that

had twenty-eight distinct attacks of lobar pneumonia, and it is common to find a history of one or two previous attacks. However, Cecil and Blake³ proved that in monkeys an attack of types one, two, or three pneumococcus did confer immunity to a second attack of that same type pneumococcus; so that the more likely explanation of subsequent attacks, is that they are an evidence that the person attacked has a lowered general resistance to infection.

Post-operative pneumonia is thought to be due either to chilling at the time of operation or to aspiration of foreign material. It is most common following operations on the upper abdomen.

THE SYMPTOMS

These are so well known that they will only be mentioned briefly. The typical case of lobar pneumonia is one of the most distinctive of all diseases and is easily recognized. It is the atypical cases that are misleading and emphasis will be placed on these. The history of a typical case is as follows: a previously healthy person is taken suddenly sick with a severe chill of fifteen to thirty minutes, followed by fever, pain in the chest, rapid, shallow, painful, often grunting respirations, a hacking, dry, painful cough. The cough soon becomes productive of a white frothy, blood streaked sputum which in a day or two becomes thick, rusty, tenacious. The type of sputum is *the most characteristic* feature of lobar pneumonia. It is the one pathognomonic sign. I would like to emphasize this. So often we do not even look at the sputum. If seen on the second or third day of the disease, we find an acutely ill person, with rapid respiration, hot skin, rapid full pulse, a frequent cough productive of the so-called rusty sputum, and complaining of pain in the side of the chest. The face is flushed, expression anxious, the nostrils usually dilate with inspiration, there may be a herpes on the lips. The patient usually prefers to lie on one side, the affected side. I will not go into the physical examination of the chest, except to emphasize several points. The first is inspection; we can often tell the side involved from this alone, by noting a diminished expansion on that side. We should look for the expression, cheeks (that on the side involved may be more flushed), pupils (that of the affected side may be larger), nostrils, accessory muscles of res-

piration, posture, herpes, cyanosis, type of breathing. In auscultation the most important early feature is the fine crépitant râle, later the loud tubular breathing and increased tactile fremitus.

Now to mention some of the atypical cases. First, in children chill is infrequent; the onset is often with a convulsion. Apex pneumonia is more common in children and the right apex is involved twice as often as the left. The pain is frequently referred to the abdomen, particularly with a right lower lobe involvement. Physical examination of the lungs in children is very deceptive and it may be very difficult to say where the pneumonia is until the third day. The most reliable early signs are diminished respiration and crépitant râles over the involved lobe; there is frequently no dullness, but on the contrary a tympanic note over the pneumonic area for the first two days. We have not the help of sputum examination in children as they usually swallow this.

Pneumonia usually sets in insidiously in the aged and in the debilitated; the toxic symptoms are out of all proportion to the physical signs and temperature. In the alcoholic an attack of D. T.'s frequently marks the beginning of the pneumonia. In apex pneumonia, cough and sputum may be slight or absent, and cerebral symptoms marked. A brisk hemoptysis may occur at the beginning of an attack, although this should arouse our suspicion of, and is more common in, a tuberculous pneumonia. I have recently seen an attack of right lower lobar pneumonia in a puerperal woman, with no cough or sputum and very little fever, and have heard it said that in the puerperal woman pneumonia of this type is not uncommon. A central pneumonia may run its course without giving any physical signs, and may only be diagnosed with certainty by X-ray.

Various descriptive names are applied to types of pneumonia and are self-explanatory, such as abortive pneumonia, migratory pneumonia, apex pneumonia, double pneumonia, terminal pneumonia, massive pneumonia. This last term is applied to cases where the main bronchus is plugged by secretions, thus giving rise to signs more like fluid than consolidation.

DIFFERENTIAL DIAGNOSIS

Lobar pneumonia has to be distinguished

from acute tuberculous pneumonia, pleural effusion, empyema, pulmonary congestion, pulmonary infarct and massive collapse.

Acute tuberculous pneumonia is usually of an upper lobe, the sputum is frequently hemorrhagic, breath sounds are often distant, the other apex often shows signs of tuberculosis. When suspected we should examine the sputum for tubercle bacilli. However, in spite of careful attention to all of these points, we will often be caught napping and not suspect the presence of tuberculosis until in a case of apex pneumonia, at the end of ten days to two weeks, the protracted temperature begins falling and becomes intermittent, and the lung fails to clear up.

The chief points distinguishing pneumonia from a pleural effusion are first, the characteristic sputum of pneumonia, which is absent in an effusion, and second, the presence or absence of tactile fremitus. In pneumonia this is increased whereas in effusion or empyema it is absent. Many clinicians rely largely on the flat, woodeny percussion note over fluid as contrasted to the dull note over consolidation. The character of the breath or voice sounds cannot be relied upon. I have mentioned the fact that in massive pneumonia, where a bronchus is plugged, the signs may resemble those of fluid, more than of pneumonia. Where there is any doubt as to the presence of fluid, especially if empyema is suspected, an exploratory puncture should be made. This is a simple procedure and with the proper precautions is free from danger, except occasionally that of pleural shock. An encapsulated or interlobar empyema may give very confusing signs and should always be thought of in any obscure, continued illness following an attack of pneumonia. Pulmonary congestion is found in debilitated or elderly patients who have lain in bed for any time. The signs are slight dullness and many fine and medium moist or crépitant râles at both bases, usually more on the right. With such signs we must not be misled into diagnosing pneumonia. Pulmonary infarction is seen in post-operative cases usually within two weeks following operation, or in cases of endocarditis or chronic heart disease, or phlebitis. The signs are sudden pain in the chest, or hemoptysis, or both, followed often by a pleural rub over the site of the infarct. If the area involved is a large one, which is unusual, there may be a small area

of bronchial breath and voice sounds, perhaps with dullness. Jaundice often follows the infarction in a few days and this sign is of the greatest value in distinguishing an infarct. Massive collapse is an occasional post-operative complication in which there is a plugging of a main bronchus. This causes a massive atelectasis; the signs are dullness, absent breath and voice sounds, high diaphragm and movement of the mediastinal structures to the affected side.

In this discussion of the differential diagnosis of pneumonia, I have not mentioned the X-ray, since this is not often available; but, where it is, this is the greatest single aid to the diagnosis of diseases of the lungs. Griffith,⁵ however, has recently pointed out the difficulty of distinguishing broncho- from lobar pneumonia in children, and he found that the clinical diagnosis was more often correct than the X-ray diagnosis, in some cases *both* being incorrect. He studied the clinical, X-ray and post-mortem findings in a series of twenty-six cases of pneumonia in children two years and under.

COMPLICATIONS

Among the complications of lobar pneumonia, may be mentioned empyema, pericarditis, endocarditis, meningitis, otitis media, jaundice, thrombophlebitis, abscess and gangrene, and arthritis.

Empyema is by far the most important of the complications. It is found in about 4 per cent of cases. Untreated it is almost uniformly fatal, but diagnosed early and properly treated, the chances of recovery are good. It is useless to go into the physical signs of simple empyema or an encapsulated or interlobar empyema. If we rely on these we are sure to make serious mistakes. The only safe procedure is to insert an aspirating needle when it is suspected, although we should get the help of an X-ray examination if possible. We should suspect it in any case of lobar pneumonia that fails to clear up at the end of ten days' time, particularly, if following a drop in temperature and temporary improvement, the temperature begins to rise and the patient gets toxic again. A white blood cell count may aid us as this is usually greatly increased with a high percentage of polymorphonuclear cells. Meningitis and endocarditis are both practically always fatal complications; fortunately their occurrence is rare,—in less than .5 per

cent of cases. Pericarditis is more frequent, occurring in about 2 per cent of cases clinically and in 10 to 15 per cent of autopsied cases; it is usually overlooked. We should examine the heart daily for signs of a friction rub or increasing dullness, weakened heart sounds, etc. The mortality is high, over 50 per cent, even with early operation. Jaundice occurs in from 2 to 10 per cent of cases; it is more common in the colored race. It is non-obstructive in type, presumably hematogenous. The mortality of jaundiced cases is high, around 50 per cent. Pulmonary abscess and gangrene are of rare occurrence as are the other mentioned complications, arthritis and thrombophlebitis. Otitis media is not infrequent in children, occurring in about 3 per cent of cases. We should remember to examine the ears in children with pneumonia.

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311 *Medical Arts Building.*

MEDICAL TREATMENT OF PNEUMONIA.*

By THOS. N. DAVIS, M. D., Lynchburg, Va.

In the treatment of pneumonia spectacular results have not been forthcoming as in other diseases. Year after year its mortality has not been appreciably lessened; collectively, and in individual cases its virulence increases and wanes so that what therapy appears successful in one group of cases may fail when tried in another. It is interesting to note, however, that the mortality has been reduced in cities where the quarantine of cases is enforced as in other infectious diseases. Pittsburgh, which always has a high morbidity, has decreased its

*Read as part of a symposium on Pneumonia, before the South Piedmont Medical Society, at Lynchburg, Va., on April 15, 1930.

pneumonia death rate by this innovation. With the exception of serum for type one and two, specific treatment in pneumococcic pneumonia is lacking; and means of identifying the type is usually beyond the reach of the physician. It would be wrong, as some advocate, to give type one serum in all cases with the idea of its harmlessness; but the effect is striking when administered early in the type one case of pneumonia.

The thought is prevalent and usually accepted that pneumonia is generally a pneumococcic infection. In a series of 100 cases Dr. B. M. Randolph,* of Washington, D. C., by culturing the sputum, found streptococcus hemolyticus and streptococcus viridans, or the two combined, as the causative organism in the great majority of this series; the onset, like lobar pneumonia was abrupt and the physical findings similar enough to classify them as true lobar in type until culture of the sputum proved otherwise. This study of Randolph is valuable. It should make us cautious in using serum loosely in any case of pneumonia; it may enlighten relatively those cases where there is no definite crisis, also in the unresolved, and in those of delayed resolution: these patients may have a streptococcic infection which differs in the expected course of typical lobar pneumonia.

Despite the lack of availability of specific therapy, there are well defined principles of proven merit, and these when practiced will bring gratifying results in the mild as well as severe case. Over forty years ago Loomis† remarked "that there are some patients with pneumonia whom one cannot cure, some whom one cannot kill, and a certain proportion whom wise treatment and good nursing will help to recover." This latter per cent will demand all that the physician can give of both knowledge and skill; with close attention to details which often require of him duties usually entrusted to the nurse.

At the outset, if the patient's condition permits, the physician should determine the extent of lung involvement, of possible complications, such as an effusion; he should note the efficiency of the heart; while cardiac weakness is rare before the third day, any incompetence noted should be corrected early. In the examination be considerate as possible, as

the patient needs all his strength for the fight ahead. Extensive examination is needless; it may cost the patient his life. It is admitted that a hospital is better suited to care for the ill but many pneumonia patients when transferred to a hospital succumb on account of the effort they unconsciously exert on being moved from their homes.

When a diagnosis and general summary have been arrived at, the physician should instruct the attendants of the infectious nature of the disease, he should direct that individual precautions be carried out, and in particular that the sputum be destroyed.

The whole problem in pneumonia is that of relief of the toxæmia, and support of the patient until cessation of symptoms indicate recovery; to this end all modes of elimination must be utilized to the fullest extent, and that food which leaves the least possible residue and is quickly available as energy should be administered at regular periods approaching three intervals.

No one doubts the beneficial effects of fresh air, it is not only stimulating but supporting, and considerable elimination is gained through the respiratory tract when the air of the room is pure. In the true type of lobar pneumonia uncomplicated by bronchitis, the colder the air, the more comfortable the patient; the clothing next to the body may be kept well open about the neck and upper chest, permitting dissipation of the temperature; with the apparel wide open it may be hard to obtain full cooperation from relatives in having the air of the room the same as that outside, but the simple explanation that the patient cannot catch more cold may allay their fears: and often when they still demur, ask them if they wear an overcoat in hot weather, adding that the patient with all his fever is similar to one heavily dressed in the summertime. In temperate and warm weather when the atmosphere lacks the invigorating tone of cold air, an electric fan is of service; this lacking, the bed may be placed in between two windows to get the benefit of any draft. By these means of cold air and loosely worn apparel, the temperature, pulse and respiration are perceptibly reduced, the desire for nutrition is increased, the patient is altogether more comfortable. It is the writer's experience that the patient, whether conscious or delirious, will be the first to indicate any possible chill-

*B. M. Randolph, *Archives of Internal Medicine*, February 1929.

†Quoted by Randolph in *Archives of Int. Med.*, February, 1929.

ing from undue exposure. In the case of the elderly and of infants, these should not be subjected to cold air; they do better, however, when the temperature is maintained at about 60 degrees, and a thermometer in the room should be convenient for reference.

The diet in pneumonia should be simple; often it is elaborate; stuffing and over-feeding is most harmful. Nutrition in a liquid or semi-solid form is easiest to serve; the patient need not necessarily be consulted as he is often delirious, and generally takes what is proffered, whether appetizing or not. Milk in some form, as milk shakes, custards, cereals with milk, ice cream, potato puree; these give a choice for a sufficient number of calories. It is the writer's practice to add a teaspoonful of milk sugar to every form of nutrition except water. This makes a highly concentrated food, which is innocuous and is diuretic. It is remarkable to note improvement of the pulse if milk sugar is supplemented. When the crisis is foreseen, it is wise to decrease the quantity of nutrition for overloading the stomach, and the process of digestion will interfere with the action of the heart which may be faltering at this time. Fluids, in contrast to the diet, must be forced; each time the patient arouses or awakens after a few minutes of sleep, three or four swallows of water should be given; the value of cold water at frequent intervals is the added stimulus to peristalsis which relieves stasis. Besides its action on the intestines, an abundance of water eliminates much of the toxins through the kidneys, and cold or ice water has an appreciable effect on the temperature. Have in mind, however, that restlessness or an unduly quickened pulse may be caused by a distended and dribbling bladder relieved by a catheter, rather than by a hypodermic of morphine.

In pneumonia, posture can be used to advantage. The majority of patients are better off simply in bed. They should be made comfortable with pillows under the head and under knees; be ever watchful to see that the chest is elevated, for tympany and a high diaphragm impede pulmonary ventilation, with added pulse rate. In the aged and obese, by placing them in a rocking chair, permitting the blood to drain and bulk in the legs, a distinct improvement in the circulation is noted and continues as long as a semi-upright position is maintained. The effect is much like venesection without its possible harm.

Temperature of itself need not alarm; if it cause restlessness, or so stupefies that it is difficult to give water and nutrition, then it is necessary to correct by hydro-therapy or alcohol sponging until the patient is again responsive, and hyperpyrexia with its increase in pulse rate is relieved.

In pneumonia, opium or some of its derivatives has a place which no other remedy can possibly equal; its judicious use for pain, violent delirium, and unproductive cough, means a patient under control. No other hypnotic or sedative is worth considering; doses as small as one-twelfth of a grain morphia hypo may be all that is necessary to relieve, but where the situation demands larger doses, the patient should not be denied its benefits.

Close attention to the alimentary tract is needed, throughout the disease; the outcome depends greatly upon the patient's ability to utilize his nutrition. Vomiting and abdominal distention may point to sudden dilatation of the stomach, relieved by withholding all food and water with possible resort to the stomach tube; and nutrition can be kept up by intravenous glucose solution. Through the intestinal tract an enormous amount of the toxins can be eliminated; a daily enema of warm sodium bicarbonate solution should be a routine order. Sometime during pneumonia, despite our efforts otherwise, the patient seems less able to negotiate his food, hiccup and tympany occur even when the lower bowel has been evacuated daily by enemata. Under these circumstances nothing acts so well as calomel in one to three grain dosage. Pituitrin intramuscularly is a powerful aid in relief of tympany and the use of pituitrin in conjunction with the rectal tube is always dependable.

The heart in pneumonia is the subject of much controversy. There are those who claim that death is usually due to heart failure; others assert that death is a respiratory failure; another designation is vasomotor exhaustion. As Lord* states, "it is certain, however, that the signs pointing to cardio-vascular weakness are but the general effect of an infection upon vital organs of the body." This leads to the subject of digitalis in pneumonia. The use of it appears fairly general, but there does not seem to be clear-cut signs for its routine administration. Its most desired result, that of slowing the pulse, is not appreciably

*F. T. Lord, Jr., *Bronchi, Lungs and Pleurae*, 2nd Edition.

accomplished save by a massive dose which is dangerous any time except in true cardiac decompensation. On the other hand, it may do harm by increasing the contractile effort of the ventricle and by decreasing the systolic output per cycle. Thus, if the heart is found normal in the beginning, I believe digitalis better withheld altogether unless signs of fibrillation appear, when it is clearly indicated and then should be given intravenously for its quickest effect.

More dependence should be placed upon those measures which conserve the patient's strength, for cardiac stimulants are uncertain; caffein and camphor are evanescent; strychnine is useful when respiratory symptoms predominate. Oxygen is valuable; cyanosis is better prevented by its early use than to rely upon it when it occurs. Pituitrin, as advocated by Randolph, acts upon the peripheral part of the vascular system and has marked sustaining effects on the circulation.

In the management of pneumonia, the physician unconsciously looks to the time of the crisis. This may be entirely uneventful, simply a cessation of previously grave symptoms. Often, however, the patient is utterly exhausted from what has gone before; he should be spared all possible effort at this time for his reserve and vital forces may be near the vanishing point. During the crisis, the windows must be closed, warm blankets provided, and a hot drink such as coffee given; whiskey has a place at this time if not before, and stimulation may be obtained by aromatic spirits of ammonia, a small amount used to moisten the nostrils acting upon the respiratory center.

With the patient well over the crisis, convalescence cannot be hastened; in proportion to the length and severity of the infection, a sufficient time must be allotted before he should even sit up; ordinarily, in five to ten days after the temperature has subsided he can be allowed a back rest, and from this time on the resumption of normal activity may be worked out by graduated rest and exercise.

Medical Arts Building.

EXTRA-UTERINE PREGNANCY— REPORT OF TEN CASES.*

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The term extra-uterine pregnancy literally means any pregnancy existing outside of the uterine cavity, but in view of the fact that all forms of extra-uterine pregnancy are believed to have originally been tubal, we might even take the liberty to discuss this condition as tubal pregnancy and its complications.

Theoretically, however, only the uterine and tubal mucosa are fitted to receive an ovum, permit its implantation, and undergo the local changes which would permit its complete development.

Decidual reactions have been found to occur on the surface of the ovary as well as on the peritoneal covering of the uterus, but as a rule close examination will reveal that, if the ovum has been expelled from the tube either by rupture or by abortion from the fimbria, there is some overflowing of the chorion, which, while remaining attached to the tubal mucosa, helps to prolong the existence of the ova until it becomes firmly attached to a new structure.

INCIDENCE: Ectopic pregnancy in its various forms is a condition which may occur at any time during the entire child-bearing period; the most notable concentration being between the ages of twenty-five and twenty-nine. There appears to be no predilection for race or nativity.

There are numerous reports of concurrent extra- and intra-uterine pregnancy. Tubal pregnancy (John Hopkins) occurs about 12 per cent as a first pregnancy; at least 33 per cent (Smith) have subsequent normal pregnancies; while about 15 per cent have repeated ectopics. Bilateral ectopic pregnancy is rare.

ETIOLOGY: The etiology of tubal pregnancy is undoubtedly a variable one. As has been previously stated, the fallopian tube seems to offer the best condition for implantation of the ovum outside of the uterus itself.

The exact point in the tube where fertilization normally occurs is not definitely established, therefore, the factors which might tend to cause abnormal implantation must be applicable to the tube as a whole. The various causative factors may be classified as extra- and intra-tubal conditions.

*Read before the Warwick County Medical Society, January, 1930.

Intra-Tubal:

1. Chronic salpingitis.
2. Myomata of tube wall.
3. Failure of cilia due to some anomaly.
4. Ovum becoming too large, the trophoblastic reaction causing irritation and erosion, and imbedding of the ovum (Sipple).
5. Reaction in tube lining causes epithelial cells to become heaped up and lose their cilia (Katz).
6. Accessory lumina.
7. Diverticula of the tube.
8. Tubal polypi.

Extra-Tubal:

1. Pressure from some tumor mass causing distortion of the tube.
2. Other pelvic inflammation causing stricture or kinking of the tube.

From what has been said, therefore, it is apparent that there is no lack of theories concerning the etiology, and the question we must consider is which of them is correct, or whether any one is of universal application.

DIAGNOSIS: Possibly there is no pelvic lesion which may present a greater variety of symptoms and signs than the one under discussion. The history is our most reliable aid to diagnosis. Physical signs elicited before or after rupture, except those accompanied by severe hemorrhage, may be simulated by many other conditions.

We may classify the more common symptoms and signs as follows:

I. Before Rupture:

1. Period overdue a few days to three weeks.
2. Nausea and other symptoms of early pregnancy.
3. Inconstant pain either deep in the pelvis or in the lower abdomen and shoulder.
4. Slight bleeding, with or without clots.
5. Exquisite tenderness in either right or left lower quadrants.
6. Rarely a mass is found.

II. At the time of Rupture—with marked loss of blood:

1. May or may not have premonitory signs.

2. Typical signs {Three weeks overdue.
Slight "spotting" and pain, followed by severe pain and fainting.
3. Shock (not due altogether to blood loss but to peritoneal irritation).
4. Exquisite tenderness in lower pelvis.
5. Tympanitic area above the line of the umbilicus.
6. Nausea and vomiting.
7. Low red blood count and high leukocyte count.
8. Prolonged sedimentation time.
9. Cullen's sign—(rarely seen).
10. Cul-de-sac puncture reveals blood.

III. After Rupture—with small loss of blood (ovum dead):

1. History suggestive of rupture—all signs modified.
2. Moderate amount of pain in either lower quadrant or in the rectum.
3. Diagnosis depends upon history and finding of a mass, formed by blood clot either around the tube or in the cul-de-sac.

(Ovum Alive)

1. Rare.
2. History attacks of pain.
3. Signs of existing pregnancy without usual enlargement of the uterus.

TREATMENT: 1. The treatment of extra-uterine pregnancy is always surgical regardless of the type or stage.

2. The time of operation depends upon the type.

3. The urgency of operation depends upon the facilities for performing it.

(a) Skill of the operator.

(b) Equipment for combating complications.

To elucidate somewhat, given a case with a history suggesting either that the tube has not ruptured or else that it has ruptured, and hemorrhage has ceased, the patient's condition being good, the operation can be done as an elective procedure.

The type of ectopic which causes us most anxiety and in which poor judgment may cost the patient her life is the acute rupture which is associated with severe hemorrhage and shock. It has been said that a patient will rarely, if ever, bleed to death from tubal rupture, but there are such cases reported.

In view of the above it would seem that the most rational treatment would consist of getting the patient into a hospital, but even before doing that the use of morphine and the Trendelenburg position will do much to combat the shock.

No intravenous therapy should be attempted until either the operation is actually started or completed. Saline and glucose may be administered by clysis just prior to operation and likewise after operation. Before proceeding with the operation, if possible, a donor should be selected and kept in readiness, should transfusion be deemed necessary. Auto-transfusion has proven successful in the hands of some surgeons, but is not always a practicable procedure.

OPERATION: The anesthetic should be selected on the basis of the patient's general condition. If there is no evidence of shock, as in some of the quiescent cases, spinal anesthesia or any general anesthetic may be used, but, if there is shock to any degree whatsoever, spinal should *not* be used. Ether seems to be a safe anesthetic in cases presenting even a fairly marked degree of shock, but in many instances novocaine infiltration offers the best chances for a successful outcome.

In cases with considerable vaginal bleeding it is well to do a diagnostic curettage just prior to laparotomy, to exclude a possible concurrent intra-uterine pregnancy.

A mid-line incision should be used because it can be made more quickly, gives ready exposure of the entire pelvis, and is accompanied by less bleeding. The affected tube should be removed, and in multiparous women, with several living children, it seems advisable, if patient's condition permits, to remove both tubes. The blood clot is poorly absorbed, and may be a factor in infection, so that if possible it would seem best to remove as much of it as possible, without producing too much trauma. The appendix should not be disturbed unless definite acute pathology is in evidence. The abdomen may be closed without drainage.

The post-operative care consists of Trendelenburg position, morphine freely, and either citrated blood transfusion, hypertonic saline infusion, or saline and glucose clysis, until shock is overcome.

I have a small series of ten cases which I had the opportunity to take care of during the past year, and, while they present nothing which has not been noted previously, still there are some interesting factors either in the diagnosis or findings which I would like to present for your discussion.

REPORT OF CASES

I. A. E.—Age 27—Para II. Admitted to ward in state of profound shock. She had gone two weeks beyond her regular menstrual time. Was awakened twenty-four hours prior to admission, with severe pain over entire lower abdomen, worse on right. Diagnosis verified by cul-de-sac puncture. Operated upon five hours after admission: right tube ruptured and large amount of blood in pelvis. This case brings out several interesting points:

(1) Danger of intravenous therapy. She was given several hundred c.c.s of saline by the interne who admitted her. Her pulse became better, but there was a secondary collapse, the reason for which operation was delayed. She was given intravenous saline on the table (1000 c.c.s) and clysis 2000 c.c.s following operation.

(2) Value of cul-de-sac puncture for diagnosis.

(3) That bleeding may continue for even twenty-nine hours without being fatal.

Her recovery was uneventful until the tenth day when she developed a mild attack of tonsillitis, which cleared up promptly and she was discharged on the sixteenth day.

II. D. S.—Age 20—Gravi II. Last period two months ago. Patient was taken twenty-four hours prior to admission with severe sharp pain, radiating across the lower abdomen and to the left shoulder, and vomited twice. Patient was in extreme shock. Examination revealed extreme tenderness over the entire pelvis. Operation revealed rupture of the right tube and a moderate amount of blood in the pelvis. The right tube was removed. Intravenous glucose and saline was given during the operation.

On the sixth day following operation, patient developed phlebitis involving the entire

left arm, in which infusion had been given. This cleared up within ten days.

Interesting features:

(1) Relatively high blood count with severe shock, R. B. C. 4,200,000, Hg. 80 per cent (Repeated), W. B. C. 22,880, Polys 92 per cent, Sedimentation time—ninety minutes.

(2) Phlebitis of the arm.

III. *C. S.*—Age 29—Para I. Last menstrual period two months ago. Sudden onset of pain in the lower abdomen forty-eight hours prior to admission, associated with vomiting and vaginal bleeding. General condition was good. Vaginal examination showed the uterus to be slightly enlarged, and the cervix soft and oozing blood.

Blood Count: R. B. C. 2,970,000 Hg. 60 per cent, W. B. C. 24,050, Polys 91 per cent.

Operation: Mid-line incision, right tube ruptured, moderate amount of blood clot in cul-de-sac. Closed without drainage. Convalescence uneventful.

Interesting features:

(1) Low red blood count and hemoglobin with good general condition; absence of shock.

IV. *C. W.*—Age 28—Gravi I. Last menstrual period twenty-four days ago. Patient complained of irregular bleeding for the past four weeks. One week prior to admission was taken with sharp piercing pain in back, radiating to mid-line anteriorly. Lasted one day only to recur on morning of admission to hospital.

Examination: Patient's general condition good. Uterus slightly enlarged, painful to manipulation, extreme tenderness in both fornices.

Blood: R. B. C. 3,290,000 Hg. 65 per cent, W. B. C. 33,000, Polys 96 per cent, Sedimentation time—one hour and ten minutes.

Operation: Mid-line incision. One month's foetus found free in pelvic cavity. Placenta attached to fimbria. Moderate amount of blood in cul-de-sac. Operation consisted of mid-line incision, right salpingectomy and removal of clot. Closed without drainage. Convalescence uneventful.

Interesting features:

(1) Value of blood count and sedimentation time in diagnosis.

V. *J. K.*—Age 34—Para III. Last menstrual period seven weeks ago. Taken with moderately severe pain in right lower quadrant, which was accompanied by slight nausea and fainting. Patient injured left hand in

falling. Since the beginning of attack patient had taken Epsom salts and was temporarily relieved, but during the past ten hours the pain had gradually increased and when admitted she pointed it out as being most severe directly over McBurney's point.

Examination: Patient appeared to be having some discomfort. No visible evidence of hemorrhage. Temperature 99.3 R. Pulse 80, regular. Blood pressure 120-80. There was extreme tenderness with rigidity and rebound tenderness over McBurney's point and extending rather deeply into the pelvis. Vaginal examination showed the uterus to be slightly enlarged, extremely tender to manipulation. In the left tubo-ovarian region there was moderate tenderness. Urine negative.

Blood: W. B. C. 21,000, Polys 87 per cent, Hg. 76 per cent, Sedimentation time—seventy-four minutes.

Diagnosis made of bleeding ectopic, probably inactive.

Treatment: Ice-cap and morphine.

Next morning all symptoms diminished, likewise on the following day.

Blood count three days after admission: W. B. C. 9,500, Polys 78 per cent. Sedimentation time—thirty-six minutes.

Operation: Mid-line incision. Left tube had attached at its fimbria a mass which proved to be the placenta. No bleeding. Moderate amount of blood in cul-de-sac. Both tubes removed.

Interesting features:

(1) Diagnosis was made on basis of history:

(a) Missed period.

(b) Acute pain.

(c) Fainting and injury to hand.

(d) Blood count, including sedimentation test.

Convalescence uneventful.

VI. *M. C.*—Age 31—Para I. Last menstrual period sixty-three days ago. Two weeks prior to admission was seized with severe pain in right lower quadrant and fainting. The pain became less severe and subsided to a dull aching sensation. Had had "spotting" for the past three days.

Examination: Showed uterus markedly retrodisplaced and slightly enlarged, painful to manipulation. Marked tenderness in right fornix. There was a small mass on the left fundus of the uterus. Diagnosis based on history alone.

Operation: Mid-line incision. Right tube was found to be chronically inflamed. The uterus was retroverted. At the junction of the left tube with the uterus there was a decided enlargement with a small rupture and a small amount of free blood in the pelvis. Both tubes removed.

Interesting features:

- (1) Diagnosis based on history.
- (2) Absence of symptoms on side on which tube ruptured.

VII. *F. S.*—Age 40—Para II. Youngest child seventeen. Last menstrual period twenty-eight days ago. Present illness began three weeks ago with severe pain in the left lower quadrant, intermittent in character, but worse with defecation. There was slight bleeding and a few clots at onset of illness.

Temperature: Normal.

Blood: R. B. C. 4,200,000 Hg. 89 per cent. W. B. C. 7,600, Polys 69 per cent.

Vaginal Examination: Showed uterus displaced to right and a large mass filling the left fornix. It was dense and quite tender. Diagnosis of pyosalpinx made.

Operation: Mid-line incision. Left tube was found to be ruptured in its mid-portion and a dense clot organized in left fornix.

Interesting features:

- (1) Localization of pain in rectum.
- (2) Age of patient.
- (3) No period missed.

VIII. *H. B.*—Age 33—Para IV. Last menstrual period before birth of baby now ten months old and still nursing. Patient complained of dull aching pain in left lower quadrant and profuse menorrhoea, which at times was bloody.

Examination: Revealed badly lacerated cervix and perineum with extensive erosion of the cervix. In the left fornix there was a slightly tender mass about the size of an orange, which was freely movable.

Temperature: 99.3, Pulse 90.

Blood: W. B. C. 10,200, R. B. C. 4,000,000, Hg. 70 per cent, Polys 70 per cent, Sedimentation time—seventy-five minutes.

Diagnosis: Laceration of cervix, cystocele, rectocele and left ovarian cyst.

Operation: D. and C. Repair of cervix, cystocele and rectocele. Mid-line incision revealed attached to the fimbriated extremity of the tube and to the ovary a mass the size of a large orange, freely movable. No free blood

in the pelvis. The mass was removed and also the right tube. Recovery uneventful.

Interesting features:

- (1) Occurrence in nursing mother.
- (2) No history of rupture.
- (3) Inability to differentiate mass from an ovarian cyst.

IX. *A. T.*—Age 31—Para II. Last menstrual period one month ago and had been bleeding ever since. Three weeks ago had sharp pain in right lower quadrant associated with nausea and vomiting. This subsided but she still had slight aching. Came to hospital for relief of bleeding.

Examination: Uterus slightly enlarged and cervix soft. There was a dense tender mass filling the left fornix.

Temperature normal. *Blood:* R. B. C. 4,600,000, Hg. 85 per cent, W. B. C. 7,200, Polys 71 per cent, Sedimentation time—two hundred and twenty-one minutes.

Diagnosis: Tubal abortion.

Operation: Mid-line incision revealed a right tubal pregnancy which was bleeding slowly from the fimbria. The left ovary was cystic, filling the left fornix and displacing the uterus, partially twisted on its pedicle and edematous. Right salpingectomy and left salpingo-oophorectomy done. Recovery uneventful.

Interesting features:

- (1) Co-existence of two emergency gynecologic conditions: namely, tubal pregnancy and twisted ovarian cyst.
- (2) Again the unreliability of pelvic examinations.

X. *M. L.*—Age 34—Gravi I. Last menstrual period six weeks ago. Always used contraceptives. Complains of bleeding for six weeks. Pain over entire lower abdomen for four weeks. Acute sharp pain in left lower quadrant six hours prior to admission.

Examination: General condition good. Cervix soft, uterus displaced to the right and anteriorly. Large mass in left lower quadrant, tender to pressure.

Diagnosis: Large ovarian cyst with chronic pelvic inflammation.

Blood: W. B. C. 9,200, R. B. C., Polys 77 per cent, Hg. 80 per cent, Sedimentation time—thirty minutes.

Operation: D. and C. Mid-line incision. Large amount of free blood and clot in pelvis. Omentum adherent to uterus and broad

ligament on left. Uterus displaced to right. Left tube ruptured and covered by well organized clot. Right tube contained pus. Both tubes were removed. Convalescence uneventful, until six weeks following operation patient developed manic depressive psychosis.

Interesting features:

(1) Coincidence of ruptured tubal pregnancy with acute salpingitis.

(2) Manic depressive psychosis as a post-operative complication.

COMMENT

The purpose of this paper has been to review the subject of ectopic gestation, emphasizing the salient features involved in the diagnosis and treatment. Ten cases are reported, and they represent to a great extent the various types encountered, and their peculiarities.

I am indebted to the attending gynecologists of Jersey City Hospital for the privilege of having treated these cases.

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Medical Arts Building.

CONFIRMATORY SIGN OF FREE FLUID IN THE PLEURAL SPACE: SECOND REPORT.*

By MARTIN LASERSOHN, M. D., New York City.
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It can be shown that a generalized collection of fluid in the pleural space is situated not only posteriorly but also anteriorly and laterally. This characteristic distribution of a pleural effusion was first demonstrated by Damoiseau in 1843 and again by Ellis in 1873. These observers found that where effusion exists "the line of dulness was a curve, the highest point of which was at the side, from which it gradually fell as it approached the median line towards the spine."¹ This S shaped curve is known as the "curve of Damoiseau" and as "Ellis' S shaped line of fluid." Its peak is in the axilla, the highest point of the fluid "level."

Roentgen-ray examination subsequently has

shown more clearly the distribution of fluid free in the pleural space. A small collection produces a shadow at the base, and a less striking shadow along the lateral chest wall where the fluid also accumulates because of capillarity and because of the compressibility of the lung periphery. With larger collections these shadows are more pronounced and it is seen more readily that the upper border of the fluid is not level but higher in the axillary line, curving upward from the base and dropping sharply anteriorly, thus producing the S curve previously noted on percussion. Very large amounts of fluid cast a shadow from apex to base with displacement of the mediastinum: however, there is seen, as a rule, an aerated apical portion of the lung. In some conditions, notably in lobar pneumonia, the presence of a small amount of fluid produces a shadow which is practically limited to the lateral chest wall. Capillarity produces this ribbon-like shadow. The S shape "level" of fluid so characteristically seen in simple effusions where the lung itself is but little involved is absent in these pneumonia cases, due to the loss of lung compressibility and movability.²

From these considerations it can be seen that if fluid rises in the lateral pleural space, a place corresponding to the axilla, where normally there is vesicular resonance, this fact should be of aid in the differentiation of fluid from other conditions with which it may be confused. An accumulation of fluid along the lateral chest wall should give dulness and a decrease in the intensity of the breath sounds in this area. In one group of cases, which includes consolidation of the lower lobe of the lung, chronic fibrous pleurisy at the base, and immobility of the diaphragm, the abnormal physical signs are limited essentially to the base; in another group, which includes pleural exudates and transudates, the signs are not only basal but axillary as well. In a third group, including cases where the lower lobe is consolidated and there is involvement also of the upper or middle lobe, the signs at the base are often identical with those seen in fluid: in such instances, the signs are very confusing, but one may hear, however, tubular breathing in the axilla, associated with dulness, and so obtain a very helpful clue as to the correct nature of the disease.

It should follow that no matter how con-

*From the Department of Medicine, Hospital Division of the Medical College of Virginia.

1. Reports of Medical Societies. The line of Dulness in Pleuritic Effusion, Boston M. & S. J. 90: (New Series 13) 12 (January 1), 1874.

2. Sante, L. R.: Roentgen-ray Diagnosis of Pleural Effusion, General and Local, J. A. M. A. 88:215 (January 22), 1924.

vincing the physical signs at a base may be, if these signs are unaccompanied by dullness and distant breath sounds along the lateral chest wall and high in the axilla, the diagnosis of free fluid in the pleural space should be questioned. Tubular breath sounds in the axilla, in the presence of dullness or flatness and distant breath sounds at the base should likewise make the diagnosis of an unencapsulated exudate or transudate doubtful. Such conclusions are warranted by the clinical experience previously reported³ and by the following cases conclusively studied.

Three additional cases of acute lobar pneumonia showing dullness in the axillary space and along the lateral chest wall with an increase in the intensity of the breath sounds, that is, a negative axillary sign, were punctured. On puncture no fluid was obtained. These cases are chosen from a series of thirty-five pneumonia patients* of whom, however, only these three were punctured. It is very difficult to differentiate these atypical pneumonia cases from fluid cases, as both show dullness or flatness at a base together with distant breath sounds. Both types of cases likewise show dullness in the axilla, but here a difference is noticeable on auscultation; in the pneumonia cases the dullness in the axilla was accompanied by tubular breath sounds, whereas in the fluid cases the dullness was accompanied by distant breath sounds. It is this striking difference in the auscultatory findings that is of importance in the differential diagnosis. In five cases of pleurisy with effusion, dullness in the axilla and a decrease in the intensity of the breath sounds were noted, that is, a positive axillary sign. One case (11), in which there was only a slight decrease in the resonance and in the intensity of the breath sounds, yielded only 20 c.c. of fluid, and in another case (12) in which the sign was more markedly positive, there was a larger amount of fluid than is indicated (table). Drainage had to be discontinued because of cough; the flow of fluid, however, was free upon the withdrawal of the needle. In cases, 13 and 14 the sign was noted as "four plus" and on puncture 1100 c.c. of fluid was removed in each case. In general it appears that the extent of

dullness and the degree of decrease in the intensity of the breath sounds give some information, roughly, as to the amount of fluid present. Case 15 is an exception to this rule, however, as the sign was noted as "one plus" and 750 c.c. of fluid was removed.

TABLE.—CASES IN WHICH THE PRESENCE OR ABSENCE OF THE AXILLARY SIGN WERE NOTED IN WHICH THE DIAGNOSIS WAS DEFINITELY ESTABLISHED

	SIDE	AXILLARY SIGN	THORACENTESIS	AMOUNT FLUID (IN CC.)
1. Pleurisy with effusion.....	L	++++	Yes	1300
2. Hydrothorax, cardiac decompensation.....	L & R	++++	Yes	160 L 740 R
3. Chronic fibrous pleurisy....	L	Neg.	Yes	0
4. Lobar pneumonia; small pleural effusion.....	L	+	Yes	15
5. Carcinomatosis; small pleural effusion.....	L & R	+	Yes Right	25
6. Pneumothorax, spontaneous	R	Neg.	Yes	0
7.*Lobar pneumonia.....	L	Neg.	Yes	0
8. Lobar pneumonia.....	R	Neg.	Yes	0
9. Lobar pneumonia.....	R	Neg.	Yes	0
10. Lobar pneumonia.....	R	Neg.	Yes Twice	0
11. Pleurisy with effusion.....	R	++	Yes	20
12. Pleurisy with effusion.....	R	++++	Yes Twice	20; 40
13. Pleurisy with effusion.....	L	++++	Yes	1100
14. Pleurisy with effusion.....	L	++++	Yes	1100
15. Hydrothorax, cardiac decompensation.....	R	+	Yes	750
16. Sub-diaphragmatic abscess..	R	Neg.	No.	Operation

*These seven cases previously reported.

One case (16) of sub-diaphragmatic abscess gave signs at the base identical with those encountered in pleural effusion. In this instance the axillary sign was negative and roentgen-ray studies pointed to an infra-diaphragmatic collection of fluid. At operation no fluid was found in the chest but below the diaphragm there was a large accumulation of pus.

CONCLUSIONS

1. Dullness and decrease in the intensity of the breath sounds along the lateral chest wall and high in the axilla of the affected side is a confirmatory sign of free fluid in the pleural sac.

3. Lasersohn, M.: A Confirmatory Sign of Free Fluid in the Pleural Space, *Arch. Int. Med.* 37:793 (June), 1926.

*The subsequent course and study of these patients proved them to be lobar pneumonia cases. Puncture was done when the signs and some of the symptoms of consolidation were atypical and empyema was suspected.

2. Dulness with an increase in the intensity of the breath sounds in the axilla on the side that otherwise shows the classical signs of free fluid does not confirm this diagnosis, and is usually indicative of consolidation rather than of fluid.

3. This sign is of value in the differential diagnosis of free fluid and the conditions with which it may be confused.

4. The amount of fluid present is roughly proportional to the extent and degree of dulness and of decrease in the intensity of the breath sounds in the axilla.

5. The high level in the axilla of free fluid due to capillarity and the compressibility of the lung periphery forms the basis for the signs of fluid in the axilla.

136 West 75th Street.

CANCER OF THE BREAST.*

By BEVERLEY F. ECKLES, M. D., F. A. C. S., Galax, Va.
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No apology is necessary for bringing this subject once more to the attention of a group of medical men. Cancer of the breast continues to levy its terrible annual toll of lives. In spite of the devoted, painstaking research of a multitude of gifted workers, little practical knowledge concerning this plague has been added to our meager store in recent years. The cancer problem is nowhere near solution.

These facts constitute a sufficient warrant for keeping medical attention focussed on this dread subject, and for taking proper steps to spread among the laity the small amount of definite knowledge we can claim to have about it.

Not knowing its cause, and having no specific at hand for its cure, we are reduced to the necessity of making as early a diagnosis as possible in each case, and then effecting a removal so complete that we may hope that there will be no return. This is all that we can offer to anyone afflicted with this disease; and it is only by the strictest adherence to this fundamental that our offer amounts to anything more than a temporary respite from the horror that engulfs her.

Strangely enough, there is a strict parallel between the conduct of a modern war, and our benevolent crusade against cancer. In warfare, the laboratory is looked to, to supply new and more efficient means for the destruction

of the enemy troops and the terrorizing of his people; while propaganda against him is industriously circulated throughout his own land and all neutral countries. But without the fighting man in the field, to give point to the propaganda and proof to the laboratory inventions, war would be largely theoretical and ineffectual, instead of actual and devastating.

In the campaign against cancer, we look hopefully to the laboratory to eventually unlock for us the secrets of its origin and its control. Meanwhile, it is our duty to disseminate as widely as possible our knowledge of its course and effects, so that our propaganda may reach those afflicted with this scourge in time for them to escape its terrible consequences.

We are the shock troops in the war against disease—humanity's first line of defense against "the thousand ills that mortal flesh is heir to." We are the guardians of the health, and in large measure of the happiness, of our communities; and upon our knowledge, fidelity, and courage rests the hope of disease control.

Does not this confidence in us bring with it a corresponding responsibility?

It is generally agreed that we do not know the cause of cancer, but that every cancer must have a beginning. Some lesions have been described as pre-cancerous, from their tendency to undergo malignant change.

It is conceded that the earlier a cancer is treated the better are the chances for its cure; and that the only treatment offering hope of cure is radical and complete removal.

An overwhelming majority of all tumors of the breast are malignant, the percentage of malignant growths varying with different authors from 78 per cent to 85 per cent.

No age is exempt. One does not have to be at least forty before cancer can develop. Cases are on record where cancer of the breast occurred in girls eleven years of age.

Pregnancy and lactation are pre-disposing factors; and cancer has been found in the remaining breast after the complete removal of one.

While most cases have occurred in women, cancer of the breast is not exclusively a female disease, as many instances of its developing in the male breast are matters of record.

Stated simply, any lump occurring in any breast is a serious condition and must be

*Read before the Southwestern Virginia Medical Society, at Radford, Va., March 24-25, 1930.

proved innocent before it can be considered so. Since the final proof of the nature of a growth lies in a microscopic study of its structure, it follows that the only safe course to pursue with such a condition is to remove it and subject it to such an examination.

The earlier this is done, and the more thoroughly it is accomplished, the brighter are the chances for that particular patient.

Knowing these things, are we ever justified in employing a policy of watchful waiting when consulted for advice about a growth in the breast?

Will not such a policy result in uneasiness and suspense for all our patients, and a sentence of death for those who pass during such an interval from a curable state into one of hopeless incurability?

Have we the right to take upon ourselves the responsibility for so disposing of a human life?

Is not the opposite extreme, though mutilating, far preferable? Surely, it is much better to sacrifice one breast in the interest of safety, than to offer up a whole body to torture on the altar of procrastination.

ERYTHREMIA (POLYCYTHEMIA VERA) Report of a Case with Autopsy.*

By WILLIAM CARY HOLT, B. S., M. D., Angleton, Texas.

Erythremia (Polycythemia Vera) is still a sufficiently rare condition to warrant the report of a case, especially in view of the still greater rarity of autopsies.

REPORT OF CASE

History.—Mr. G. C., white, farmer, aged 60, single, born and lived in the Virginia hills all his life, had enjoyed good health up to a few years previously. Both his father and mother died of cancer. He had one brother whom he said had a red face and frequent nosebleeds. He had had the usual childhood diseases and also influenza, with good recovery. He complained, when first seen March 14, 1927, of a dragging sensation in his left side, which had started three weeks before and become progressively worse. About two months prior to admission, he had noticed a small mass in the upper left abdomen, which had become gradually larger, but had never caused any discomfort up to three weeks before. There had been frequent frontal headaches, some ver-

tigo and blurring of his vision, but no nosebleeds, in the three weeks. All his teeth had been removed, but he had noticed frequent bleeding from the gums. His cheeks and nose had been very ruddy for some five years. There had been slight dyspnea, occasional palpitation of the heart and irregularity of the pulse, but no edema or orthopnea. Dyspepsia had bothered him for twenty years. He noticed slight nausea and anorexia at that time. Slight constipation was the rule; but there had been no abnormal stools. For the past two years he had noticed a gradual decrease in the size and force of his urinary stream, slight dysuria and a nocturia of four to six times. There had been no neurological disturbances.

Physical Examination.—The patient was a large, ruddy complexioned, well developed and nourished, elderly white man, in no pain. The skin of the face and arms was a very deep beefy red, and the mucous membranes were a reddish purple. The sclerae were bloodshot and the fundi showed markedly tortuous and distended veins, but no hemorrhages or scars. The tongue was thick and deep red. All the teeth were absent and the gums bled easily. The veins of the neck were very prominent. The chest was barrel-shaped. There were a few fine moist rales in either lung base and dullness in the left base, probably splenic. The boundaries of the heart were normal. Numerous extrasystoles and a loud systolic murmur were heard over the entire precordium, best at the apex. Blood pressure was 140/100. Apex and radial pulse were 86. Veins over the entire body were large and prominent. All peripheral arteries were markedly tortuous and sclerotic. The abdomen was not distended. The spleen was palpable 9 cm. below the costal margin in the mid-clavicular line. The liver was palpable on deep inspiration. Below the spleen and toward the umbilicus, there was a rounded, slightly tender, slightly movable, cystic mass about 7 cm. in diameter. Digital rectal examination revealed an enlarged prostate. Knee-jerks were absent, but no abnormal reflexes were elicited. There were extensive varicose veins noted on both lower limbs, extending well up on the thighs.

After a barium enema, X-ray examination showed the colon to be normal though large. There was no connection between the colon and the cystic mass.

Cystoscopic examination showed moderate

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hypertrophy of the posterolateral lobes of the prostate with one ounce of residual urine. Both ureters were catheterized with difficulty and a phenolsulphonephthalein test showed a low output (6 per cent) from the right kidney and no dye from the left kidney. Urine from either kidney showed albumin, few pus cells and numerous red cells. There was no residual urine in the pelvis. Pyelogram of the left pelvis showed the kidney to be in the location of the cystic mass, but though not very satisfactory, due to the presence of some barium in the colon, no evidence of hydronephrosis was seen.

Laboratory Examination.—The urine on several examinations showed a large trace of albumin, positive urobilin and urobilinogen tests, low specific gravity, few white corpuscles, few red corpuscles and occasional hyaline casts. The Wassermann test was negative. Phenol-sulphonephthalein test of kidney function showed 25 per cent excretion in two hours. Blood urea was 68 mg./100 c.c. on admission and 74 mg./100 c.c. four days later.

Hemoglobin was 105 per cent Dare and 118 per cent Sahli on admission and varied within 5 per cent while in the hospital. Red cell count was 9.5, 9.3, 9.6, 9.8 and 9.5 million. Leucocytes were 35,000 and 29,000. Differential count showed 71 per cent pmn., 26 per cent smn., 1 per cent lmn., 0 per cent transitionals, 1 per cent eosinophils, 0 per cent basophils, 1 per cent myelocytes. Blood smear appeared normal except for the myelocytes. Platelet count was 280,000 direct method and 330,000 indirect method. Fragility test of the red corpuscles was normal; hemolysis began at 0.42 per cent and was complete at 0.36 per cent, while the control cells began at 0.44 per cent and were complete at 0.35 per cent. Bleeding time was four minutes (Duke). Coagulation time was seven and one-half minutes (Howell).

Course and Treatment.—A diagnosis of (1) erythremia, and (2) cyst of the left kidney was made. But due to the patient's insistence, he was discharged at this time with instructions to take benzol and to return in two weeks for further examination.

The patient returned three weeks later, on April 10, 1927, with pains in the left chest, orthopnea, increased nocturia and edema of the lower limbs. He had also noticed a large purple spot on the inner left thigh.

Examination at this time was essentially the same as previously, except for the following: Marked facial cyanosis; marked dyspnea and orthopnea with greatly distended surface veins; dullness on percussion in either lung from the angle of the scapula down; numerous coarse moist rales; increased tactile and vocal fremitus and bronchial breathing over the dull area. Heart sounds were weak as was the pulse. Distinct gallop rhythm. Radial and apex pulse rates were equal 120 a minute. Blood pressure 128/82. Abdomen distended and tympanitic. Liver edge palpable 6 cm. below the costal margin in the mid-clavicular line. Spleen and cystic mass seemed larger. A large purpuric spot on the inner thigh. Temperature was 99.8° rectal. Hemoglobin 120 Dare and Sahli. Red cells 8.6 million. Leucocytes 18,000. Differential count as previously except an increase to 3 per cent myelocytes. Urine showed an increased specific gravity, otherwise as before. Kidney function with indwelling catheter in place was 15 per cent in two hours. Blood urea now 82 mg. per 100 c.c.

Patient was rapidly digitalized and placed as much at rest as possible. He improved for the first few days; but on April 14, he developed thrombosis of the left femoral artery. From this time on he gradually sank into uremic coma with a blood urea of 120 mg. per 100 c.c., leucocytes 38,000, blood pressure 110/75, and suppression of urine. Many blood counts were made during this time, but revealed no change other than the decrease in both red and white corpuscles and the rise in the number of myelocytes. Patient expired on April 23, thirteen days after the last admission.

Diagnosis.—(1) Erythremia, (2) Arteriosclerotic heart disease with chronic nephritis and edema, (3) Benign hypertrophy of prostate, (4) Thrombosis left femoral artery, (5) Cyst of kidney.

Autopsy (by the late Dr. Harry T. Marshall).—This is reported in brief to give only the important findings:

Anatomical diagnosis.—Erythremia. Splenomegaly with metaplasia and extensive necrosis of the spleen. Productive perisplenitis and infarction of the accessory spleen. Widespread obliterating endophlebitis of spleen, lungs, etc. Dark brown pigmentation of liver, heart, kidneys and the relatively normal re-

nants of the spleen. Endarteritis and endophlebitis of the superior and inferior mesenteric vessels. Early cirrhosis of liver. Fibrosis of kidneys with many large retention cysts, particularly of the left kidney. (The cystic mass noted on physical examination was a retention cyst containing about 50 c.c. of fluid.) Bone marrow of the ribs and vertebrae was uniformly deep red with absence of yellow fat marrow.

Histological diagnosis.—Generalized phlebosclerosis with reduction and obliteration of the vein lumina, and with thrombi (organizing) in the pulmonary veins. Infarction of lungs with c.p.c. and organization. Infarction of spleen with fibrosis and perisplenitis. Fibrosis and atrophy of the kidneys with hemangioma and cysts. Central atrophy and regressive changes in liver with peripheral hyperplasia and adenomatous proliferation. Vacuolar degeneration of the islands of Langerhans. Slight, probably terminal, hemorrhagic inflammation in the peripancreatic fat. Fibrosis, atrophy and pigmentation of heart muscle. Pigmentation of liver, and kidney cells. Marked erythropoiesis in bone marrow.

COMMENT

In several cases previously reported by Owen¹ and Engelking whom he cites, Osler,² Cecil,³ et als, the familial tendency has been pointed out. And in this case, it seems quite probable the brother alluded to was a victim of the same condition.

In this case, as in one recently reported by Davis,⁴ there was hypertrophy of the prostate and downward displacement of the left kidney, the latter condition being most probably due to the pressure of an enormously enlarged spleen. In this instance, however, there was in addition a very large retention cyst, which was palpable on abdominal examination because of its ectopic position.

The autopsy findings are in accord with those previously reported, as cited by Osler,² Cecil³ and Milani.⁵ But in addition, there was a generalized, possibly antecedent phlebosclerosis, most marked in the spleen and lungs.

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Brazoria Co. State Bank Building.

THE INCIDENCE OF VINCENT'S ANGINA IN THE STUDY OF FIFTY UNSELECTED CASES.*

By B. N. PITTENGER, M. D., Roanoke, Va.

In our routine work we have been finding patients with clear-cut clinical symptoms of Vincent's angina, some of which are reported positive bacteriologically, others of which are reported negative. We also find patients with symptoms for which we are unable to account clinically, but which show Vincent's by laboratory procedure. Some of these patients clear up on treatment directed at Vincent's. In mouth and throat smears in instances in which certain symptoms prevail but Vincent's was not suspected, Vincent's was shown bacteriologically. In, we believe, as many instances where Vincent's was suspected, it could not be demonstrated by laboratory procedure. Such procedure aroused a certain curiosity on our part and we decided to examine a series of smears for a basis for our conclusions. Fifty unselected specimens covering the Hospital Staff, nurses and patients, and patients as they appeared at the offices whether for eye or ear, nose and throat symptoms, were made. We classified patients as to mouth symptoms, or none, noting any symptoms that any patients might have attributable to infection in teeth, gums, tonsils or pharynx.

Twenty-four specimens, or 48 per cent, were diagnosed in the laboratory as Vincent's angina with gentian violet stain. Seventeen specimens were diagnosed positive Vincent's by the gram method. Each gram stain was corroborated by the gentian stain but seven gentian stains were not corroborated by gram stains. Literature states that the gram method is variable on the organisms of Vincent's angina. Of the twenty-four positive specimens, six had symptoms of bleeding gums, sore throat, temporal pain, sore hard palate, or sore teeth. Nine patients who had symptoms from which one would expect to find organisms in

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view of the fact of finding them in like specimens were negative. Of eighteen positive specimens with no symptoms, five were connected with the hospital and one was a patient three years of age who has been a resident here for over a year. Three connected with the hospital were not positive. One patient, a two-year-old baby, was hospitalized because of laryngeal diphtheria. Smears from the tracheotomy tube, teeth and throat were negative for Vincent's and, incidentally, were negative for diphtheria bacilli on both direct smear and culture. The patient, however, responded promptly to antidiphtheritic measures. One patient without any symptoms whatever, but who was reported positive, came to the office three or four days later with the complaint of pain in and around the incisor teeth. Another smear was positive and registered the same bacteriology as the previous smear. This condition subsided promptly on treatment directed at Vincent's. One patient with peri-tonsillar abscess was negative. One patient, who had had a tonsillectomy three weeks before and complained of dysphagia as the only symptom, tonsil pillars and fossae being clean, was found positive for Vincent's. The Wassermann reaction in this patient was also positive. Whether syphilis or Vincent's angina was responsible for the pain could not be ascertained because the patient did not return to the office.

Patients with symptoms of Vincent's showed the same bacteriology as positive smears from patients with no symptoms. Our laboratory diagnosis was made by comparing the slides of our series with slides from patients with clear-cut clinical symptoms.

By the gentian method eight organisms were found—large bacilli, fusiform bacilli, spirilli, staphylococci, streptococci, diplococci, spore formers and bipolar bacilli. Five gram positive organisms were found—staphylococci, streptococci, bacilli, diplococci and fusiform bacilli. Three gram negative organisms were found—spirilli, bacilli and staphylococci.

In literature, Vincent's angina is variously named diptheroid angina, ulcero-membranous, chaneriform or ulcerative lacunar tonsillitis; trench mouth and putrid sore mouth. The bacteriology is described as a fusiform bacillus associated with a spirillum. There are differences of opinion on staining properties.

Classical text-book symptoms are those of ulceration of the gums and tonsils, occasionally

in the larynx and pharynx, fever, local adenitis, putrid breath, increased salivation, dysphagia. One author states that Vincent's is contagious, that one suffering from it should be isolated. Another author states that the infectivity has not been proved.

Treatment by applications of tincture of iodine, copper sulphate, silver nitrate, sodium perborate, salvarsan or other arsenicals locally or intravenously and alkaline mouth washes has been described. It is our opinion that cleansing mouth washes, as sodium perborate and hydrogen peroxide, will suffice in most cases. Aggravated or long standing cases may react promptly upon administration of salvarsan locally or intravenously.

SUMMARY

The fact that five of eight hospital specimens were diagnosed in the laboratory as Vincent's would bear weight toward the infectiousness of Vincent's.

Bacteriological diagnosis alone is futile in the selection of cases for treatment.

Treating only those cases presenting classical symptoms, as described in text-books, seems to us to be overlooking the greatest number of cases of Vincent's angina. Not one of our fifty cases had text-book symptoms, but the symptoms that presented cleared up on treatment directed at Vincent's angina.

The Physicians' Journal Club of the Eastern Shore of Virginia

Held its regular monthly meeting at the Memorial Hospital, Nassawadox, Va., September 9th. The general topic of discussion was "Infantile Paralysis." Dr. W. J. Bradshaw, head of the Accomac-Northampton Health Unit, lead with a report of the seven cases seen within the past few weeks. Discussion by members of the club followed in which the various aspects of the disease, especially in regard to the remarkable results obtained from use of convalescent serum, were brought out.

It was decided that the Club shall at each meeting decide upon subject for round-table discussion at the following meeting. This is to be held after the regular program shall have been disposed of.

The next meeting of the Club will be held at Accomac on October 14th. Round-table discussion will be on "Influenza," speakers to be announced later.

J. MORTIMER LYNCH, *Secretary*.

President's Message

My Last President's Message.

This is the last President's Message which I will send you. I feel it has been a great privilege to thus communicate with the members of the Society each month, and I sincerely trust that my efforts have been of some little service. I have made an attempt to discuss things which seemed to me important in running a Medical Society. I have taken the liberty of making some changes, which I hope will be of service, feeling that if they are not acceptable they can be changed at any time by the House of Delegates or by succeeding presidents. If any changes are thought to be of value and are adopted as a permanent part of the program of the Society I will be very much gratified. If, on the other hand, they are not considered practicable I certainly will

not be grieved if my experiments are reversed, as what I have done is not personal but merely an attempt to benefit the profession of the State of Virginia.

I am, however, making one innovation, which I do not want used as a precedent as it is purely a personal matter and for my own pleasure. I am taking this opportunity, as my last official act, of inviting all the members of the Medical Society of Virginia to an oyster roast on Thursday afternoon after the adjournment of the Society. I hope that a large number of men can be present, as nothing will give me greater pleasure than to be able to meet you thus in a social way after my official duties have ended.

The Program.

On another page of this issue of the VIRGINIA MEDICAL MONTHLY you will find the Program of our approaching meeting. This is in itself an innovation, but is a procedure which many societies have adopted, and effects quite a saving in cash, as it will form a basis for the pamphlet Program.

You will note other departures from our previous practice. An attempt has been made to make our Program a Scientific one and to use only the number of papers we feel can be read in the allotted time. Hence, it has been found necessary to read a number of papers by title, instead of making a program so crowded that it would be impossible to get through everything and likewise impossible to know when a certain paper was to be read. In order to carry out this concept each session will be begun promptly on time with the paper beginning this Program, no paper being carried over from a previous session. If any man should fail to be present at the time his paper is called it may be possible to get in some paper from those supposed to be read by title. The Scientific Session of the Society will end on Thursday about noon. This will eliminate the deadly Thursday afternoon session when readers of papers only had as an audience the authors of other papers scheduled for the same session. It is felt that this was really the same as having a paper read by title and it furthermore imposed a very unnecessary burden on the men scheduled for this hour.

I feel that our Program is a good one, which should be an educational help to anyone who

will attend the meetings and listen to and discuss the papers. It is hoped that the discussion will be full, as a good discussion is generally more instructive than the original paper.

On Tuesday evening we have scheduled two very delightful speakers from out of the state. We all know Dr. William S. Thayer, of Baltimore, formerly Professor of Medicine at Johns Hopkins, Brigadier-General in the A. E. F., and Ex-President of the American Medical Association. It is always a treat to listen to him. Most of you remember the charming talk that Dr. David Lyman gave at the Luncheon Meeting given at the University of Virginia last year. Dr. Lyman's talks are always unusual and attractive, and our Society is to be congratulated on having him with us this year.

There will also be ample opportunity for those who wish to take advantage of the social side of the Medical Meeting. Norfolk has many opportunities for entertainment, which we are very glad to take advantage of. The Medical Society of Virginia has expressed appreciation of Norfolk's entertainments in the past, and we hope that the present session will at least equal any one that has preceded it. The Norfolk County Medical Society will be greatly disappointed if we do not have an unusually large attendance.

CHARLES R. GRANDY, M. D.,
President, Medical Society of Virginia.

Presidents and Places of Meeting of the Medical Society of Virginia

At this season, when interest centers around the meeting of the Medical Society of Virginia, it seems that every one will be interested in refreshing themselves on the names of presidents and places of meeting of our former sessions.

Dr. James B. McCaw, Richmond, was chair-

man of the convention which assembled in Richmond, November 2, 1870, to organize the Medical Society of Virginia. Below is given a list of presidents, followed by names of places and years of meetings over which they presided:

PRESIDENT	PLACE OF MEETING	YEAR OF MEETING
Dr. R. S. Payne, Lynchburg	Richmond	1871
Dr. A. M. Fauntleroy, Staunton	Lynchburg	1872
Dr. Harvey Black, Blacksburg	Staunton	1873
Dr. A. G. Tebault, London Bridge	Norfolk	1874
Dr. S. C. Gleaves, Wytheville	Abingdon	1875
Dr. F. D. Cunningham, Richmond	Richmond	1876
Dr. Jas. L. Cabell, University	Charlottesville	1877
Dr. J. H. Claiborne, Petersburg	Petersburg	1878
Dr. L. S. Joynes, Richmond	Richmond	1879
Dr. Henry Latham, Lynchburg	Alexandria	1880
Dr. Hunter McGuire, Richmond	Danville	1881
Dr. G. William Semple, Hampton	Old Point Comfort	1882
Dr. W. D. Cooper, Morrisville	Fauquier White Sulphur Springs	1883
Dr. J. E. Chancellor, Charlottesville	Rockbridge Alum Springs	1884
Dr. S. K. Jackson, Norfolk	Rawley Springs	1885
Dr. Rawley W. Martin, Chatham	Alleghany Springs	1886
Dr. Bedford Brown, Alexandria	Fredericksburg	1887
Dr. Benjamin Blackford, Lynchburg	Richmond	1888
Dr. E. W. Rowe, Orange C. H.	Norfolk	1889
Dr. Oscar Wiley, Salem	Roanoke	1890
Dr. Wm. W. Parker, Richmond	Rockbridge Alum Springs	1891
Dr. H. Gray Latham, Lynchburg	Lynchburg	1892
Dr. Herbert M. Nash, Norfolk	Alleghany Springs	1893
Dr. William P. McGuire, Winchester	Charlottesville	1894
Dr. Robert J. Preston, Abingdon	Richmond	1895
Dr. Wm. L. Robinson, Danville	Wytheville	1896
Dr. Geo. Ben Johnston, Richmond	Rockbridge Alum Springs	1897
Dr. Lewis E. Harvie, Danville	Hot Springs	1898
Dr. Jacob Michaux, Richmond	Virgin'a Beach	1899
Dr. Hugh T. Nelson, Charlottesville	Richmond	1900
Dr. J. R. Gildersleeve, Tazewell	Charlottesville	1901
Dr. R. S. Martin, Stuart	Lynchburg	1902
Dr. John N. Upshur, Richmond	Newport News	1903
Dr. Joseph A. Gale, Roanoke	Roanoke	1904
Dr. Wm. S. Christian, Urbanna	Richmond	1905
Dr. Lomax Gwathmey, Norfolk	Norfolk	1906
Dr. Paul B. Barringer, Charlottesville	Charlottesville	1907
Dr. Wm. F. Drewry, Petersburg	Chase City	1908
Dr. Stuart McGuire, Richmond	Richmond	1909
Dr. E. T. Brady, Abingdon	Roanoke	1910
Dr. O. C. Wright, Jarratt	Norfolk	1911
Dr. Hugh M. Taylor, Richmond	Richmond	1912
Dr. Southgate Leigh, Norfolk	Lynchburg	1913
Dr. Stephen Harnsberger, Catlett	Washington, D. C.	1914
Dr. Samuel Lile, Lynchburg	Richmond	1915
Dr. Joseph A. White, Richmond	Norfolk	1916
Dr. Geo. A. Stover, South Boston	Roanoke	1917
Dr. E. G. Williams, Richmond. Owing to influenza epidemic and the World War, meeting was not held in 1918, and Dr. Williams held over as president.	Richmond	1919
Dr. Paulus A. Irving, Farmville	Petersburg	1920
Dr. Alfred L. Gray, Richmond	Lynchburg	1921
Dr. E. C. S. Taliaferro, Norfolk	Norfolk	1922
Dr. John Staige Davis, University	Roanoke	1923
Dr. W. W. Chaffin,* Pulaski	Staunton	1924
Dr. Hunter H. McGuire, Winchester	Richmond	1925
Dr. W. L. Harris, Norfolk	Norfolk	1926
Dr. J. Shelton Horsley, Richmond	Petersburg	1927
Dr. J. W. Preston, Roanoke	Danville	1928
Dr. J. Bolling Jones, Petersburg	Charlottesville	1929
Dr. Charles R. Grandy, Norfolk	Norfolk	1930

*On account of Dr. Chaffin's illness, the first vice-president, Dr. H. H. McGuire, of Winchester, presided in 1924.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Continuation Education for Practitioners.

This month marks the first anniversary of the work of this Department. Being the educational agency of the Society, and in fact its only regular and continuous activity during the interim between annual sessions, great interest has followed its development and constructive work during the year now closing.

The members of the Society throughout the State have readily accepted their obligations to each other in this work, and, whenever requested, have gladly responded with their skill and experience to teach others what they had personally acquired through years of professional practice.

From time to time, the individual and concerted methods employed to this end have been noted in this section, and the central idea in all the work has been to provide opportunities for the general practitioner to obtain the more recent viewpoints, and to observe new procedures in special lines of work, together with new methods of diagnosis and of treatment.

No attempt has been made to give comprehensive graded courses, nor fundamental basic science courses, for these will be left to the regularly organized Post-Graduate courses of our Medical Colleges, but the aim has been to teach Medicine of today to the general practitioner, mainly by practical methods and non-operative clinics and clinical conferences held in his own immediate community.

The great interest already manifested in this work is most noteworthy, and promises much for the future. Medicine is an ever-growing and expanding science, as well as art, and no individual physician can scale its heights, nor measure its depths, but must study continually its evolution and development.

Consequently, each sincere searcher after scientific truth is ready and willing to give and take of his own and of another's riches in knowledge and experience. Thus, equality of medical learning is acquired and shared, and best of all, professional contacts are secured, that give to the busy practitioner in the rural districts, who is necessarily deprived of these, equal benefits with the city physician with college-teaching affiliations.

Pursuant to our By-Laws, new officials will assume charge of this work for the Society, after the meeting in Norfolk, and it is believed that they will enlarge its usefulness, and energize its activities.

In retiring, though not relinquishing our interest in this educational work, may we express the wish, as we cherish the hope, that to them, as to us, members will continue to give their interest and support, for our profession, as well as our Society, needs the abiding love and loyalty of every member in this great cultural and constructive work.

Clinch Valley's Recent Meeting

—On *September 20th*, The Clinch Valley Medical Society, composed of seven county associations, met in its Fall session at Norton, Va., and held an all-day session. Dr. J. B. Wolfe, President, delivered a short address on "Some of the Methods Advised in Present-Day Medical Progress." Following this, other papers and discussions were:

"A Discussion of Foetal and Maternal Morbidity and Mortality." Dr. Harry H. Ware, Jr., Memorial Hospital, Richmond.

"Important Pediatric Considerations." Dr. St. George T. Grinnan, Professor of Pediatrics, Medical College of Virginia, Richmond.

"The Health Problems of Southwest Virginia." Dr. Ennion G. Williams, State Health Commissioner, Richmond.

"Routine Diagnostic Procedures in Medical Examinations." Dr. Manfred Call, Department of Medicine, Medical College of Virginia, Richmond.

"Cancer of the Uterus." Dr. Charles R. Robins, Department of Surgery, Medical College of Virginia, Richmond.

Scheduled Meetings

The following programs will be presented during the month of October before the Norfolk County Medical Society. Visitors are always welcome and are cordially invited to take part in the discussions.

—*Monday, October 13th.* SECTION ON SURGERY AND GYNECOLOGY:

Emergency Cystoscopy in Ureteral Calculus
—Dr. Thos. V. Williamson.

Some Observations on Head Injuries—Dr. Geo. W. Schenck.

—*Monday, October 20th.* SECTION ON MEDICINE AND PUBLIC HEALTH:

The Value of Iron in the Treatment of the Anemias—Dr. Walter B. Martin.

—*Thursday, October 23rd.* SECTION ON EYE, EAR, NOSE AND THROAT:

The Use of Prisms in Muscle Anomalies—Dr. H. J. Jordan, Lt. Comdr. U. S. Naval Hospital, Norfolk.

Treatment of Convergent Strabismus—Dr. A. D. Morgan.

Technique of Localization of Foreign Bodies in the Eye (lantern slides)—Dr. L. F. Magruder.

Treatment of Foreign Bodies Imbedded in the Cornea, and Complications—Dr. L. Leroy Jones.

—*Monday October 27th.* SECTION ON PEDIATRICS:

Three Years' Experience with Goat's Milk in Infant Feeding—Dr. Dandridge P. West.

What Progress in Infant Feeding?—Dr. W. L. Harris.

—*Monday, November 10th.* SURGICAL CLINIC by Officers of the Marine Hospital, under direction of the Surgeon in Charge, Dr. S. L. Christian.

—On *October 21st-22nd-23rd*, the Medical Society of Virginia will convene in annual session at Norfolk, Dr. Charles R. Grandy, President.

The program as prepared by the Program Committee appears elsewhere in this issue.

—On *Tuesday, November 18th*, beginning at 2:00 P. M., a clinical and scientific meeting will be held at Burkeville with Dr. W. H. Venable, Superintendent and Medical Director of the Piedmont Sanatorium, and the Post-Graduate Medical Society, cooperating.

Other Clinical Meetings

In order that our members may know something of the interest being taken elsewhere at the present time in clinical courses for general practitioners, the following will be of interest:

—From *October 20 to 31, 1930*, the Third Annual Graduate Fortnight of The New York Academy of Medicine will be held. The gen-

eral subject which has been chosen for this year is "Medical and Surgical Aspects of Acute Bacterial Infections."

The program as arranged is in two parts--coordinated afternoon clinics to be held in ten important hospitals in the city, and evening meetings to be held at the Academy. An added feature of this year's Fortnight will be an exhibit of anatomical, bacteriological and pathological specimens and research material bearing upon the various aspects of the subject.

In the afternoons ten of the large hospitals of the city, with an abundance of clinical material, will cooperate in the Fortnight by presenting specially arranged clinical programs bearing upon different phases of the general subject.

Evening sessions will be held at the Academy, at which well-known authorities will discuss many phases of the general subject.

—From *October 20-24, 1930*, The Inter-State Post-Graduate Medical Association of North America will hold its International Assembly in the Municipal Auditorium, Minneapolis, Minn., Dr. Edwin Henes, Jr., M. D., Executive Secretary.

Practical Psychiatry Courses

It will be recalled that last Winter this section announced that the State Hospitals of Virginia had been opened for the first time publicly to the medical profession for clinical instruction, and it is now a great pleasure to announce, through the courtesy of Dr. H. C. Henry, Superintendent, that the Central State Hospital at Petersburg, in response to requests from the Dean and Professors of Psychiatry of the Medical College of Virginia, will give a course in practical Psychiatry for the students of the college.

The Junior class will spend two weeks there, alternating by sections during the scholastic year, and the schedule which follows was begun on September 18th:

MORNING SCHEDULE (Each Week)

Monday, 9 to 12—Physical examination new admissions, taking blood and spinal fluid for laboratory diagnosis and ward rounds, under direction Dr. Hyatt.

Tuesday, 9 to 12—Staff conference, mental disease clinic, and ward rounds, under direction Dr. Henry.

Wednesday, 9 to 12—Mental examination new admissions and ward rounds, under direction Dr. Wimbish.

Thursday, 9 to 12—Mental examination new admissions and ward rounds, under direction Dr. Brent.

Friday, 9 to 12—Staff conference, mental disease clinic, and ward rounds, under direction Dr. Gill.

Saturday, 9 to 12—Physical examination new admissions and ward rounds, under direction Dr. Hopkins.

AFTERNOON SCHEDULE (First Week)

Monday, 2 to 5—*Medical Center*. Histories, physical examinations and progress notes. (Autopsies and operations when scheduled).

Tuesday, 2 to 5—*Male Psychopathic*. Study of selected cases of acute psychoses, under direction Gill.

Wednesday, 2 to 5—*Medical Center*. Syphilitic treatments, laboratory, histories, physical examinations and progress notes. (Autopsies and operations when scheduled).

Thursday, 2 to 5—*Female Psychopathic*. Study of selected cases of acute psychoses, under direction Dr. Gill.

Friday, 2 to 3:30. *Epileptic Building*. Study of selected cases of epilepsy.

3:30 to 5—*Medical Center*. Assigned work, under direction Dr. Gill.

AFTERNOON SCHEDULE (Second Week)

Monday, 2 to 5—*Medical Center*. Histories, physical examinations and progress notes. (Autopsies and operations when scheduled).

Tuesday, 2 to 5—*East View*. Study of selected cases of mental defectiveness, under direction Dr. Gill.

Wednesday, 2 to 5—*Medical Center*. Syphilitic treatments, laboratory, histories, physical examinations and progress notes. (Autopsies and operations when scheduled).

Thursday, 2 to 5—*Chronic Building*. Study of selected cases of chronic psychoses, under direction Dr. Gill.

Friday, 2 to 3:30—*Criminal Building*. Study of selected cases among the criminal insane.

3:30 to 5—*Medical Center*. Assigned work, under direction Dr. Gill.

Information

All members of the State Society are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Acting Executive Secretary, Mr. George W. Eutsler, P. O. Box 707, University, Va., or to the Chairman of the Department of Clinical Education, 5 East Franklin Street, Richmond, Va.

Woman's Auxiliary, to the Medical Society of Va.

Preliminary Program for Annual Meeting.

Below we give the Preliminary Program for the annual meeting of the Woman's Auxiliary, in Norfolk, October 21-23.

It is hoped that as many of our members as possible will attend.

MRS. F. W. UPSHUR, *President*.

Tuesday, October 21

3:00 P. M.

Registration.

8:00 P. M.

Opening meeting of the Medical Society of Virginia in the Ballroom of the Monticello Hotel. The principal speakers on this occasion will be:

Dr. Charles R. Grandy, *President*, Norfolk.

Dr. David R. Lyman (*Invited Guest*), New Haven, Conn.

Dr. Wm. S. Thayer (*Invited Guest*), Baltimore, Md.

Wednesday, October 22

10:00 A. M.

Meeting of the Executive Board at Woman's Club.

1:00 P. M.

Oyster Roast for *all* ladies at one of the resorts, followed by a shore drive in the afternoon.

10:30 P. M.

Buffet supper, music and dancing at the Norfolk Country Club, for doctors and ladies accompanying them. Admission by cards which must be secured at Registration desk.

Thursday, October 23

10:00 A. M.

Annual meeting at the Woman's Club, 524 Fairfax Avenue. This will be followed by luncheon and a drive to the Naval Base to witness drill.

The Annual Meeting is open to wives, mothers, sisters and daughters of doctors, and they are all urged to attend, whether or not members of the Auxiliary.

The time and place of the final Executive Board meeting will be announced at the annual meeting, by the in-coming President.

A GOOD RULE

If your ears would keep from jeers,
Five things keep meekly hid:
Myself and I and mine and my
And what "I said and did."

—*Selected*.

PRELIMINARY PROGRAM

MEDICAL SOCIETY OF VIRGINIA

Sixty-first Annual Session Norfolk

OCTOBER 21, 22 and 23, 1930

Headquarters: MONTICELLO HOTEL

SCIENTIFIC PROGRAM

Tuesday, October 21, 1930

8:00 P. M.

Ballroom, Monticello Hotel

Open to Profession and Public

Call to Order—W. L. Harris, M. D., Chairman, Committee of Arrangements.

Announcements.

Address of Welcome—F. D. Wilson, M. D., President, Norfolk County Medical Society.

Response to Address of Welcome—J. W. Preston, M. D., Roanoke.

Memorial Hour (audience standing)—Joseph A. White, M. D., Richmond.

Address of President—Charles R. Grandy, M. D., Norfolk.

Address—David R. Lyman, M. D. (*invited guest*), New Haven, Conn.

Address—William S. Thayer, M. D. (*invited guest*), Baltimore, Md.

Wednesday, October 22, 9:30 A. M.

Symposium on Syphilis

(a) Cutaneous Manifestations of Syphilis—D. C. Smith, M. D., University.

(b) Syphilis in Relation to Internal Medicine—Wm. B. Newcomb, M. D., Norfolk.

(c) Syphilis in Its Relation to Surgical Neurology—C. C. Coleman, M. D., Richmond.

(d) Prevention of Syphilis—C. B. Ransome, M. D., Roanoke.

Discussion: Carrington Williams, M. D., Richmond, and C. E. Conrad, M. D., Harrisonburg.

Voluntary Papers

Cancer of the Stomach, with Special Reference to Its Incidence, Diagnosis and Treatment—J. Shelton Horsley, M. D., Richmond.

Primary Carcinoma of the Small Intestine—W. H. Goodwin, M. D., University.

The Value of the Roentgen Ray in the Diagnosis of Lesions of the Colon—Claude Moore, M. D., Washington, D. C.

An Ideal Appendectomy—M. B. Hiden, M. D., Warrenton.

Carcinoma of Rectum and Sigmoid—Stanley H. Graves, M. D., Norfolk.

Wednesday, 3:00 P. M.

The Extract of Watermelon Seed in the Treatment of Hypertension—Blanton P. Seward, M. D., Roanoke.

The Significance of Blood Pressure Changes in Hypertension (*lantern slides*)—J. Edwin Wood, Jr., M. D., University.

Syphilitic Cardiovascular Disease—William B. Porter, M. D., and Dudley C. Ashton, M. D., Richmond.

Thyroid Extract in the Treatment of Certain Cardiac Diseases—D. G. Chapman, M. D., Richmond.

Encephalography in the Diagnosis of Brain Lesions (*lantern slides*)—J. G. Lyerly, M. D., Richmond.

The Use of the Roentgen Ray in the Diagnosis of Brain Tumors—(*lantern slides*)—J. L. Tabb, M. D., Richmond.

Congenital Hypertrophic Stenosis of the Pylorus—Wm. B. McIlwaine, M. D., Petersburg.

The Management of Open Safety Pins in the Air and Food Passages (*lantern slides*)—E. G. Gill, M. D., Roanoke.

Treatment of Carcinoma of the Cervix by Radium and X-Ray—Edgar M. McPeak, M. D., Washington, D. C.

Atypical Problems in the Injection Treatment of Varicose Veins (*lantern slides*)—Eugene Lowenberg, M. D., Norfolk.

Wednesday, 8:15 P. M.

Acute Pneumonitis Due to Infection by Vincent's Organism: Report of Three Cases—Dewey Davis, M. D., and Edgar C. Harper, M. D., Richmond.

Important Developments in Thoracic Surgery—Frank S. Johns, M. D., Richmond.

Closed Internal Pneumolysis: An Aid in the Pneumothorax Treatment of Pulmonary Tuberculosis (*lantern slides*)—I. A. Bigger, M. D., Richmond.

The Care and Prognosis of Extra-Mural Epileptics (*lantern slides*)—David C. Wilson, M. D., University.

The Management of the Psychoneurotic—Finley Gayle, M. D., Richmond.

Early Findings in Disseminated Sclerosis—James Asa Shield, M. D., Richmond.

Buffet Supper for Doctors and Ladies at Norfolk Country Club, following Scientific Program.

Thursday, October 23

9:00 A. M.

Avertin in General Surgery—I. H. Goldman, M. D., Richmond.

Avertin: A Rectal Method of General Anesthesia—W. K. Dix, M. D., and John S. Horsley, Jr., M. D., Richmond.

Differential Diagnosis of Tularemia—S. D. Blackford, M. D., University.

Report of a Series of Four Tumors of the Kidney Occurring in Children Under Five Years of Age—Julian L. Rawls, M. D., Norfolk.

Neoplasms of the Urachus: Report of Two Cases of Carcinoma (*lantern slides*)—R. L. Payne, M. D., and R. DuVal Jones, M. D., Norfolk.

Laboratory Diagnosis of Syphilis—G. Foard McGinnes, M. D., and Adah Corpening, Richmond.

An Analysis of 207 Consecutive Operations Upon Patients Suffering with Thyroid Disease—J. M. Emmett, M. D., Clifton Forge.

The Hypothyroid State—Edward L. Alexander, M. D., Newport News.

An Unusual Type of Splenic Anemia—B. M. Randolph, M. D., Charlottesville.

Torsion of the Omentum Presenting Symptoms and Signs of Acute Appendicitis—W. B. Huff, M. D., Roanoke.

Zinc Stearate Aspiration with Report of a Case—Ernest G. Scott, M. D., Lynchburg.

Familial Dystrophy of the Hair and Nails: Report of Three Cases—Kinloch Nelson, M. D., Richmond.

Thursday, 12:30 P. M.

Special Order—Report from the House of Delegates

Papers to be Read if Time Permits

Material Medicine (A Corollary of Medical Jazz, by Roy K. Flannagan, M. D.)—Wm. O. Bailey, Leesburg.

Cancer Education—Southgate Leigh, M. D., Norfolk.
Medical Supervision of Airplane Pilots—Nelson Mercer, M. D., Richmond.

Fat Embolus: Report of a Case with Recovery—Elisha Barksdale, M. D., Lynchburg.

The Biological Relationship of Eugenics to the Development of the Human Race—John H. Bell, M. D., Colony.

Whither Are We Drifting as a Profession? Some Facts Worthy Our Consideration as Loyal Physicians—B. C. Keister, M. D., Harrisonburg.

Phrenicotomy in the Treatment of Suppurative Pulmonary Disease—C. P. Cake, M. D., Detroit, Mich.

Dislocation of Knee with Rupture of Popliteal Artery and Vein—Randolph L. Anderson, M. D., Richmond.

Training the Prospective Young Mother in the Feeding of her Child—Alvah Stone, M. D., Roanoke.

Health Audits (*lantern slides*)—A. A. Houser, M. D., Richmond.

All papers and contributions are the property of the Society and should be given the Reporter immediately after presentation, for publication in THE MONTHLY.

Induction of New President.
Adjournment.

Oyster roast for men only, immediately following the Scientific Program.

ANNOUNCEMENTS

REGISTRATION AND INFORMATION BUREAU
7th Floor, Monticello Hotel.

Dues may be paid at Registrar's desk. Please advise Registrar of any change of address.

GENERAL AND SCIENTIFIC MEETINGS

Ballroom, 7th Floor, Monticello Hotel.

BUSINESS SESSIONS

Executive Council—Small Dining Room, 6th Floor, Monticello Hotel, Tuesday, October 21, at 12 M.

House of Delegates—Small Dining Room, 6th Floor, Monticello Hotel, Tuesday, October 21, at 2:30 P. M., and Wednesday, October 22, at 9:00 A. M.

SCIENTIFIC AND COMMERCIAL EXHIBITS
7th Floor, Monticello Hotel.

WOMAN'S AUXILIARY

Meetings at Woman's Club, 524 Fairfax Avenue.

INVITED GUESTS

Dr. William S. Thayer, Baltimore, Md.
Dr. David R. Lyman, New Haven, Conn.

LUNCHEON MEETINGS

Wednesday, October 22, at 1:00 P. M.

Secretaries of Component Societies, at Fairfax Hotel. Luncheon, \$1.00. Reservations should be made through the State Secretary, Miss Agnes Edwards or at Registration Desk.

Virginia Pediatric Society will hold its annual luncheon at Southland Hotel. Luncheon, \$1.50. Reservations should be made through Dr. Claiborne Willcox, Medical Arts Building, Norfolk, not later than October 20th. All members of State Society are invited.

The special speaker for this occasion will be Dr. John Lovett Morse, of Boston, Mass., whose subject will be "The Thymus and Status Lymphaticus."

Virginia Roentgen Ray Society members will be guests of Dr. James W. Hunter, at Monticello Hotel.

The Alumni Association of the Medical College of Virginia will have its "get together" luncheon at Southland Hotel. Luncheon, \$1.25. Reservations should be made through Dr. Julian L. Rawls, Medical Arts Building, Norfolk.

Dr. Walter E. Vest, president of the Association, will act as chairman.

ENTERTAINMENTS

Tuesday, October 21, at 10:00 A. M.—Golf Tournament at Norfolk Country Club. Luncheon served to players only, after game.

Wednesday, October 22, 10:30 P. M.—Buffet supper, music and dancing for doctors and ladies, at Norfolk Country Club, following scientific program. Admission by card only, obtained at Registration desk.

Thursday, October 23, immediately after adjournment.—Oyster roast for men only, given by the president, Dr. Charles R. Grandy. Admission by card to be obtained at Registration desk.

In order to plan for various entertainments, early registration of all members and visitors is desired.

SCIENTIFIC EXHIBITS

Monticello Hotel—Seventh Floor

1. American Society for the Control of Cancer, New York City.
2. American Social Hygiene Association, New York City.
3. Dr. George B. Lawson, Dr. W. P. Jackson, and Dr. J. E. Gardner, Roanoke, Va.—"Pneumoconiosis in Iron Miners."
4. Dr. John S. Horsley, Jr., St. Elizabeth Hospital, Richmond, Va.—"Tumors of the Face."
5. Dr. E. G. Gill, Gill Memorial Eye, Ear and Throat Hospital, Roanoke, Va.—"Foreign Bodies in the Air and Food Passages."
6. Dr. Vincent W. Archer, and Dr. Charles H. Peterson, X-ray Department of University of Virginia Hospital, University, Va.—"The Roentgen Diagnosis of Intestinal Ascariasis."
7. Specimens from the Medical Museum of the University of Virginia, collected and arranged by Dr. Charles Bruce Morton, Department of Surgery and Gynecology, University of Virginia.

CLINICS

Tuesday, October 21

2:00 to 4:00 P. M.—**Nervous and Mental Disease Clinic, at The King's Daughters' Clinic**—Dr. J. S. DeJarnette, Staunton, Va., and Dr. Charles W. Putney, Staunton, Va.

2:30 to 5:30 P. M.—**Surgical Clinic at St. Vincent's Hospital.**

2:30 to 3:30 P. M.—**"The Surgical Treatment of Angina Pectoris"**—Dr. I. A. Bigger, Jr., Richmond, Va.

3:30 to 4:30 P. M.—**"Congenital Obstruction of the Urethra"**—Dr. Austin I. Dodson, Richmond, Va.

4:30 to 5:30 P. M.—**"Spinal Anesthesia"**—Dr. R. L. Payne, Norfolk, Va.

2:30 to 5:30 P. M.—**Medical Clinic at the Norfolk Protestant Hospital.**

2:30 to 3:30 P. M.—**"The Bedside Recognition of Cardiac Arrhythmias"**—Dr. J. C. Flippin, University, Va.

3:30 to 5:30 P. M.—**"Angina Pectoris"**—Dr. William B. Porter, Richmond; Dr. F. C. Rinker, Dr. C. L. Harrell, Dr. N. G. Wilson, Dr. M. S. Fitchett.

Proceedings of Societies

The Accomac Medical Society

Held its regular monthly meeting the middle of September, in the Hotel at Accomac. Delegate and alternate were elected to the Norfolk meeting of the State Society. Dr. John W. Robertson was re-elected trustee of the Northampton-Accomac Memorial Hospital at Nasawadox, to represent this Society. A matter discussed at this meeting was the annual medical banquet, for which Drs. J. H. Ayres, J. L. DeCormis and Fred Edmonds are committee in charge. Following the business meeting, the members entered into an informal round table discussion of medical problems. Officers of the Society are: President, Dr. W. W. Kerns, Bloxom; vice-president, Dr. J. H. Hiden, Pungoteague; and secretary-treasurer, Dr. John W. Robertson, Onancock.

The Loudoun County Medical Society

Held its regular monthly meeting with a good attendance, at the home of Dr. G. Frank Simpson, Purcellville, September the 9th. Papers were presented by Dr. W. A. Bloedorn, of Washington, D. C., on "New Cardiac Aspects and New Cardiac Therapeutics," and by Dr. J. C. Eckhardt, also of Washington, on "Cod Liver Oil: Its Vitamines and Those of Some Other Foods." A very unusual and instructive feature of the program was a con-

vincing demonstration in hypnotism by Dr. Joseph H. Gerdis, of Providence Hospital, Washington.

The secretary was directed to inquire from the Commissioner of Health the best way to stop anti-typhoid inoculations by unauthorized persons, especially trained nurses. Dr. Bloedorn, citing instances, warned of the danger of permitting anyone but physicians to administer the vaccine.

Dr. G. Frank Simpson is president of this Society; Drs. J. B. Hackley, Purcellville, and G. H. Musgrave, Leesburg, vice-presidents; and Dr. Wm. O. Bailey, Leesburg, secretary.

The Amelia County Medical Society,

At a recent meeting held at Amelia, Va., elected Dr. J. L. Hammer, Mannboro, president; Dr. Craig Eggleston, Amelia, vice-president; and Dr. Geo. A. Arhart, Amelia, secretary-treasurer. Delegate and alternate were elected for the Norfolk meeting of the State Society at this time.

The Second District Medical Society

Held its first regular meeting in Suffolk, Va., September 17th. The meeting was well attended, each of the five counties comprising the Society being well represented. Dr. R. L. Raiford, Franklin, presented a paper on "Some Helps for Building an Office Practice," and Dr. J. Lewis Rawls, Suffolk, read a paper on "A Discussion of Normal and Pathological Conditions of the Thyroid Gland." Dr. G. R. Joyner, Suffolk, is president of this Society, and Dr. F. C. Rinker, Norfolk, secretary.

The Southside Virginia Medical Association

Held its regular quarterly meeting at Courtland, Va., September 9th, with an attendance of between forty and fifty physicians. Dr. J. A. Grizzard, Drewryville, is president, and Dr. R. L. Raiford, Franklin, secretary. The reception Committee, composed of Drs. W. T. McLemore, E. F. Reese, Linwood Farley and J. A. Grizzard, arranged for dinner for the members and visitors at the Southampton Hotel, between the afternoon and evening sessions. Papers were presented by Dr. J. E. Nance, Franklin, Dr. Linwood Farley, Courtland, Drs. C. L. Harrell, and Frank Redwood, Norfolk, Dr. B. B. Bagby, Franklin, and Drs. J. S. Horsley, Jr., W. K. Dix and W. R. Graham, of Richmond.

It was decided to hold the next meeting in Petersburg, on the second Tuesday in December, at which time will be held the election of officers.

The Truth About Medicine

In addition to the articles enumerated in our letter of July 26th, the following have been accepted: International Vitamin Corporation

I. V. C. Vitamin Concentrate of Cod Liver Oil.
National Drug Co.

Antimeningococcic Serum.

Parke, Davis & Co.

Gas-Gangrene Antitoxin (Combined), Refined and Concentrated.

Soluble Gelatin Capsules, Parke, Davis & Company's Standardized Cod Liver Oil, 10 minims.

Soluble Gelatin Capsules, Parke, Davis & Company's Standardized Cod Liver Oil, 20 minims.

Soluble Gelatin Capsules, Parke, Davis & Company's Standardized Cod Liver Oil, 2.5 Gm.

Soluble Gelatin Capsules, Parke, Davis & Company's Standardized Cod Liver Oil, 5 Gm.

G. D. Searle & Co.

Chiniofon—Searle.

Tablets Chiniofon—Searle, 0.25 Gm. (4 gr.)

C. M. Sorensen Co., Inc.

Inhalant Chloretone Creosote and Eucalyptol—Sorensen.

Spicer & Co.

Tartro-Quiniobine.

Tartro-Quiniobine Ampules, 2 c.c.

White Laboratories, Inc.

White's Cod Liver Oil Concentrate.

Non-proprietary Articles

Quinine Bismuth Iodide

Sodium Potassium Bismuthyl Tartrate.

The following article has been exempted and included with the List of Exempted Medicinal Articles (New and Non-official Remedies, 1930, p. 477):

C. M. Sorensen Co., Inc.

Inhalant Pine Camphor and Eucalyptol—Sorensen.

NEW AND NON-OFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Ampules Emulsion Mesurol, 20 per cent, 1 c.c.—A suspension of mesurol (New and Non-official Remedies, 1930, p. 100), in sesame oil, each cubic centimeter of which contains mesurol equivalent to from 0.103 to 0.117 Gm. of bismuth. Winthrop Chemical Co., Inc., New York.

Book Announcements

Proceedings of the 1929 Annual Conference of the National Society for the Prevention of Blindness. St. Louis, Missouri, November 11-13, 1929. Published by the Society at 370 Seventh Avenue, New York City. Pamphlet of 201 pages. Publication 65. Price, \$1.00.

The Table of Contents contains a number of interesting papers on: Cooperative Relationship in the Field of Prevention of Blind-

ness—A Series of Five-Minute Presentations; Conserving Vision in Industry; Social Hygiene in Relation to Prevention of Blindness; Trachoma; Addresses Given at Open Meeting and Reception Arranged by Ophthalmic Section of the St. Louis Medical Society; Vision Justice for the Young Child; and several Round-Table Discussions.

The Candiru. The Only Vertebrate Parasite of Man. By EUGENE WILLIS GUDGER, Ph. D., Bibliographer and Associate in Ichthyology, American Museum of Natural History, New York City. With a Foreword by ALFRED SCOTT WARTHIN, Ph.D., M. D., LL.D., Professor of Pathology and Director of the Pathological Laboratories in the University of Michigan, Ann Arbor. Paul B. Hoeber, Inc. New York. 1930. 12mo of 120 pages. With 18 Illustrations. Cloth. Price, \$1.50.

Arterial Hypertension. By EDWARD J. STIEGLITZ, M. S., M. D., Assistant Clinical Professor of Medicine, Rush Medical College; Attending Internist, Chicago Lying-in Hospital; and Assistant Attending Physician, Presbyterian Hospital. Foreword by ROLLIN T. WOODYATT, M. D., Clinical Professor Medicine, Rush Medical College; Chairman Department of Medicine, Attending Internist, Presbyterian Hospital. Paul B. Hoeber, Inc. New York. 1930. Octavo of 280 pages. With 21 Illustrations. Cloth. Price, \$5.50.

History of Haitian Medicine. By ROBERT P. PARSONS, Lieutenant-Commander, M. C., U. S. N. Foreword by EDWARD R. STITT, Rear Admiral, M. C., U. S. N. Paul B. Hoeber, Inc. New York. 1930. 12mo of 196 pages. With 21 Illustrations and a Folding Map of Haiti. Cloth. Price, \$2.25.

Stalkers of Pestilence. The Story of Man's Ideas of Infection. By WADE W. OLIVER, M. D., Professor of Bacteriology, Long Island College Hospital; Visiting Professor, University of the Philippines (Auspices of the Rockefeller Foundation). Introduction by THEOBALD SMITH, M. D., Ph.D., Director, Department of Animal Pathology, The Rockefeller Institute. Paul B. Hoeber, Inc. New York. 1930. 251 Pages With 23 Illustrations. Cloth. Price, \$3.00.

Eyes Saved In Industry. The Experience of 583 Companies. A Study Conducted Jointly by The National Safety Council and The National Society for the Prevention of Blindness. Published by the Society, at 370 Seventh Avenue, New York City. Publication 62. Pamphlet of 24 pages. Illustrated. Price, 15 cents.

American Medicinal Plants of Commercial Importance. Miscellaneous Publication No. 77. United States Department of Agriculture. Washington, D. C. Pamphlet of 74 pages. Illustrated. For sale by the Superintendent of Documents, Washington, D. C. Price, 30 cents.

Diet In Disease. By GEORGE A. HARROP, Jr., M. D., Associate Professor of Medicine, Johns Hopkins University, Associate Physician, Johns Hopkins Hospital. Philadelphia. P. Blakiston's Son & Co., Inc. Octavo of 404 pages. With Eighty Tables, Sample Diets and Food Lists. Cloth. Price \$4.00.

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Norfolk, Va. University, Va.

AGNES V. EDWARDS,
Business Manager and Secretary-Treasurer.

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OCTOBER

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Editorial

Profit and Loss in the Barbituric Acid Derivatives.

There should be another nation-wide educational campaign within the ranks of the medical profession. This effort should be to inform the members of the profession as to the "profit" to be found in the administration, for legitimate clinical needs, of the various derivatives of barbituric acid in hypnotic, sedative, antispasmodic and anesthetic medication. Use of these preparations or derivatives has been most salutary and helpful in many proper fields of medicine. The fact that there are some thirteen "makes" in this group indicates the wide interest on the part of drug manufacturers in this class of remedies, and further shows the rather generous use of these remedies by physicians and the public.

But, there is a "loss" side to the question. This makes it important for practitioners the nation over to know more details concerning their toxic and deleterious actions. This becomes urgent because of the well known condition that has arisen in the country. These preparations have become popularized to the extent that laymen buy them over the counter at will; prescribe them for others; take them to produce "dope" effects; to kill depression; to overcome fatigue; and to drive away melancholia and the like.

Our readers are asked to make a careful and discriminating study, this winter, of the use of "barbitals." For this comment, the Editor wishes to acknowledge with appreciation the large and careful review of the publication on this subject that was presented by Dr. John S.

Lundy and Dr. Arnold E. Osterberg,* of the Mayo Clinic. As will be seen this bibliographic list which served as the source for this review comprised some 466 articles of the world's literature.

VARIOUS DERIVATIVES OF BARBITURIC ACID

<i>Descriptive Chemical Name</i>	<i>Trade Name</i>
1. Iso-amylethyl barbituric acid	Amytal
2. Isopropylethyl barbituric acid	Ipral
3. Phenylethyl barbituric acid	Luminal
4. Cyclohexenylethyl barbituric acid	Phanodorn
5. Ethylbutyl barbituric acid	Neonal
6. Phenylmethyl barbituric acid	Rutonal
7. Diethyl barbituric acid	Veronal, Barbital, Malonal
8. Allylisopropyl barbituric acid	Allonal and Numal
9. Diallyl barbituric acid	Dial
10. Isobutylallyl barbituric acid	Sandoptal
11. Diethyl barbituric acid and Allylisopropyl barbituric acid	Veronal and Allonal, called Somnifene
12. B-brompropenylisopropyl barbituric acid	Noctal
13. B-brompropenylisobutyl barbituric acid	Pernocton

Chemistry of these soporifics and hypnotics may be in general given by saying that barbituric acid may be prepared by the condensation, under proper conditions, of malonic acid and urea; that malonyl urea, more commonly known as barbituric acid, is capable of forming derivatives in a manner similar to malonic acid itself by substitution of the methylene hydrogen of the malonic acid residue—urea. Urea is capable of acting as a hypnotic only when combined with radicals rich in carbon and it is most effective in the cyclic arrangement present in barbituric acid.

Pharmacologic action may be briefly noted. Elimination of the derivatives of barbituric acid is found in the urine in variable amounts and in varying rapidity. One worker reported that 90 per cent of diethyl barbituric acid or veronal may be eliminated in the urine following subcutaneous injection of small doses; large doses, however, decreased in percentage and after three days elimination was complete. There are many variations which careful review of the literature on the methods of elimination calls for.

Metabolic influences are of interest. The body temperature is lowered. This was found to be present in animal experiments. It appears that certain phases of metabolism of carbohydrates are disturbed, particularly in

*Supplement 2—Proceedings of the Staff Meetings of the Mayo Clinic, Vol. 4, No. 51, page 386.

iso-amylethyl barbituric acid (or amytal) administration. On respiration, the action of barbituric acid hypnotics is to slow the rate. Large doses, for instance, of phenylethyl barbituric acid (luminal) can cause paralysis of the respiration also iso-propylethyl barbituric acid (ipral) has a depressing effect, even complete paralysis.

In the gastrointestinal system, the drug seems to remain in the stomach for a short time but has little known harmful action on the structures or functions of this system.

In the nervous system, barbituric acid hypnotics have definite action and have been demonstrated in the brain. It is held that a concentration of 0.016 per cent in the brain is sufficient to produce sleep. The brain and spinal cord are affected in varying manner by these hypnotics and in concentration with spinal anesthesia offer an interesting field.

The muscular system is characterized by loss of tonus under influence of barbituric acid derivatives. Iso-amylethyl barbituric acid (amytal) had no effect on the rhythmic contraction of the uterus of the virgin guinea pig.

In the cardiovascular system, these drugs have a temporary action in lowering blood pressure. There appears to be an interesting synergistic and antagonistic relation in these drugs to certain other drugs. For instance, observations point to antagonistic and antidotal action of the barbituric acid derivatives to toxic action of cocaine and procaine. Cases of poisoning from cocaine have been quickly relieved of convulsion by use of barbituric narcotics. For instance, Tatum showed that intravenous injections of barbituric hypnotics, with or without paraldehyde, is an excellent way to control convulsions due to cocaine. Other interesting experiments have been made in this connection as brought out from literature by these authors.

Amidopyrine, antipyrine and acetyl salicylic acid seem to make for more salutary action of barbituric hypnotics and to have an antagonistic action to depressive effects of these derivatives.

Use of these drugs has become widespread. Derivatives of barbituric acid, popularized by a commercial name, have become more or less a national question for regulation or proper use. Adoption of these remedies by the public has taken the control of their clinical use out of the hands of medical men; over the nation. "allonal," "veronal," "barbital" and

"luminal" are, it is reported, used with indiscriminate frequency by all sorts and kinds of people for all sorts and kinds of purposes, many malicious and harmful. Now it has come about that one layman or laywoman recommends for another's "insomnia," "nervousness," "headache," "melancholia," etc., so much luminal or so much veronal, etc. As happens always, after a menace has become well established and much harm has already been inflicted, laws are passed for the purpose of regulating and restricting an abuse. There are yet additions to be restricted by law, longer or more established in the country, but there is no more salutary or more timely one than the recent statute which requires the doctor's order for the purchase of these "barbitals." One would not prohibit, but one must regulate the purchase of these toxic agents, that, in maximum amounts, deprive humans of rationality and responsibility of action as well as afford an easy approach to addiction of drugs of extreme danger to life.

A reading of the literature on these drugs impresses one with the degree of danger that lies in their use or abuse. In fact, the mere notation of the larger number of derivatives that manufacturers have brought about from one parent drug makes for the argument that in its use certain dangers lurk so that repeated efforts have been employed to improve and refine the action to be most desired without attendant dangers and harmful effects. Doctors want to be on the guard also for another reason. These drugs, in these days of spinal anesthesia, rectal anesthesia, and intravenous anesthesia, and the like, offer much that is salutary but likewise much that is dangerous. Every physician who makes extensive or occasional use of these derivatives should undertake a careful reading and study of the clinical use of them. He should prescribe them with utmost care, adhering as far as possible to safe and sane application of them in cases where indications are without question.

Where one scans the publications on these drugs and notes the frequent use of such terms as hypnotic action, narcotic action, sedative action, antispasmodic action, and anesthetic effect; of use in insomnia, in mental distress, in anxiety, in nervousness, in melancholia, in despondency, in sorrow, in hysteria, and in excitement; of the happy effect in dementia, psychiatric cases, in epileptic patients, in catatonia

and the like,—one has to look the facts in the face and say to one's self that such a group of drugs as these, with all the widespread clinical use which has even already become of frequent popular use, certainly deserves and claims a thorough study on the part of every medical man of whatever type and sort.

Over doses or toxic actions of these derivatives are mentioned frequently in publications. Such disturbances as cutaneous eruptions, coma and somnolence, disturbances of the eye, pyrexia, disturbances of the nervous system, disturbances of the respiratory tract, urinary disturbances, acceleration of the pulse rate, and cyanosis, are prominent in the list of symptoms, indicative of over dosage.

Cutaneous rash, or erythema, stand out as frequent irritative signs. One patient, who had taken 64 grains of ethyl barbituric acid (veronal) in two days, and 128 grains in three days, broke out with an erythematous rash, exhibited a tenderness of the right mastoid, enlargement of the lymph nodes, discharge from the right ear, a temperature of 101° F., a pulse rate of 125, delirium and semi-coma. Another case is reported, giving features of diethyl barbituric acid poisoning, describing such symptoms as vertigo, nausea and vomiting, stupor or mental confusion, muscular weakness, thirst, and a macular and vesicular eruption. Pollitzer who reported these cases, stresses eruption involving mucosa and anal region. Coma may appear after a large and sometimes after a small dose.

It is worthy of note that the State of Virginia has recently enacted a law requiring a physician's written order for the purchase of these remedies. This action seems to be one that tends to forestall further abuse of the practice of self-prescribing and of refilling prescriptions without an order from the physician.

News Notes

All Aboard for Norfolk!

The Preliminary Program of the Sixty-first annual meeting of the Medical Society of Virginia, which appears in this issue of the MONTHLY, will furnish some idea of the interesting session in store for our members who can get to Norfolk for October 21, 22 and 23. Make your plans to have this recreation and

contact with those who have similar interests. Register promptly and secure cards for the entertainments which have been provided that the Local Committee may make its preparations accordingly.

Bring the ladies with you.

A number of component societies have not yet reported names of their delegates and alternates. These are urged to send names at once to the Executive Offices, 104½ W. Grace Street, Richmond. Those already listed are:

DELEGATE	SOCIETY	ALTERNATE
	ACCOMAC	
Dr. W. W. Kerns		Dr. J. H. Ayres
	ALBEMARLE	
Dr. D. C. Smith		Dr. W. E. Brown
Dr. A. D. Hart		Dr. W. W. Waddell
	ALEXANDRIA	
Dr. M. D. Delaney		Dr. O. A. Ryder
	ALLEGHANY-BATH	
Dr. R. A. Warren		Dr. G. A. Torrence
Dr. A. D. Tyree		Dr. W. M. Revercomb
	AMELIA	
Dr. H. C. Rucker		Dr. J. L. Hamner
	ARLINGTON	
Dr. J. E. Payne		Dr. Stacy T. Noland
	BEDFORD	
Dr. R. A. Bennett		Dr. W. O. McCabe
	BOTETOURT	
Dr. A. W. Hammond		Dr. W. N. Breckinridge
	CHARLOTTE	
Dr. J. B. Bailey		Dr. C. W. Tucker
	DICKENSON-BUCHANAN	
Dr. J. C. Sutherland		
	ELIZABETH CITY	
Dr. George K. Vanderslice		
	FAIRFAX	
Dr. E. C. Shull		Dr. Wm. Meyer
	FAUQUIER	
Dr. J. R. Allen		Dr. Geo. H. Davis
	FLOYD	
Dr. J. L. Harvey		Dr. J. C. Rutrough
	HALIFAX	
Dr. J. B. Lacy		Dr. Wm. C. Brann
	ISLE OF WIGHT	
Dr. Edwin M. Easley		Dr. Rea Parker
	LEE	
Dr. J. B. Muncy		Dr. T. B. Ely
	LOUDOUN	
Dr. G. F. Simpson		Dr. W. O. Bailey
	LUNENBURG	
Dr. H. E. Whaley		Dr. E. L. Kendig

DELEGATE	SOCIETY	ALTERNATE
LYNCHBURG AND CAMPBELL Co.		
Dr. Don P. Peters	Dr. John Carroll	
Dr. Ernest G. Scott	Dr. S. E. Oglesby	

MECKLENBURG		
Dr. W. W. Wilkinson	Dr. B. S. Yancey	

MID-TIDEWATER		
Dr. E. L. W. Ferry		
Dr. Jas. D. Clements		
Dr. R. D. Bates		
Dr. A. W. Lewis		
Dr. R. R. Hoskins		
Dr. H. H. Hoskins		
Dr. M. H. Eames		
Dr. L. O. Powell		

NANSEMOND		
Dr. G. R. Joyner	Dr. O. R. Yates	

NORFOLK		
Dr. C. Lydon Harrell	Dr. N. G. Wilson	
Dr. P. St. L. Moncure	Dr. C. J. Andrews	
Dr. Walter B. Martin	Dr. Jas. H. Culpepper	
Dr. Frank D. Wilson	Dr. W. P. McDowell	
Dr. Julian L. Rawls	Dr. R. C. Whitehead	

NORTHAMPTON		
Dr. W. J. Sturgis	Dr. G. W. Holland	

NORTHERN NECK		
Dr. Geo. H. Steuart	Dr. H. J. Edmonds	
Dr. R. E. Booker	Dr. W. B. Richardson	
Dr. B. A. Middleton	Dr. J. H. Hare	
Dr. W. N. Chinn	Dr. Edward T. Ames	

PATRICK-HENRY		
Dr. J. T. Shelburne	Dr. W. C. Akers	
Dr. C. W. Thomas	Dr. G. B. Dudley	

PITTSYLVANIA		
Dr. I. C. Harrison	Dr. P. W. Miles	

POST-GRADUATE		
Dr. W. C. Harmon	Dr. F. N. Mallory	
Dr. Wright Clarkson	Dr. Geo. H. Reese	
Dr. B. J. Atkinson	Dr. G. M. Naff	
Dr. W. W. Bennett	Dr. C. C. Tucker	
Dr. D. L. Elder	Dr. J. M. Bailey	
Dr. W. W. Seward	Dr. F. E. Steere	
Dr. Joel Crawford	Dr. T. M. Raines	

POWHATAN		
Dr. R. D. Tucker	Dr. J. E. Tilman	

RICHMOND ACADEMY		
Dr. C. C. Coleman	Dr. J. B. Stone	
Dr. Stuart Michaux	Dr. J. M. Hutcheson	
Dr. James H. Smith	Dr. J. Powell Williams	
Dr. W. B. Blanton	Dr. N. Thos. Ennett	
Dr. W. H. Higgins	Dr. C. M. Caravati	
Dr. Thos. W. Murrell	Dr. Meade Mann	
Dr. R. W. Miller	Dr. A. L. Gray	
Dr. Wm. B. Porter	Dr. A. S. Brinkley	
Dr. W. A. Shepherd	Dr. Manfred Call	

ROANOKE ACADEMY		
Dr. T. J. Hughes	Dr. J. B. Nicholls	
Dr. W. R. Whitman	Dr. A. P. Jones	
Dr. W. L. Powell	Dr. Alvah Stone	

ROCKBRIDGE		
Dr. F. L. Thurman	Dr. E. P. Tompkins	

DELEGATE	SOCIETY	ALTERNATE
ROCKINGHAM		
Dr. N. M. Canter	Dr. J. C. Harshbarger	
RUSSELL		
Dr. Dan Trigg		

SCOTT		
Dr. V. W. Quillen		

SOUTHWESTERN		
Dr. A. B. Woolwine		
Dr. R. H. Harrington	Dr. B. F. Eckles	
Dr. J. L. Early	Dr. A. M. Showalter	
Dr. R. H. Woolling	Dr. W. R. Cushing	
Dr. T. K. McKee	Dr. A. B. Graybeal	
Dr. L. F. Cosby	Dr. S. H. Yokeley	
Dr. E. M. Chitwood	Dr. C. F. Graham	
Dr. W. C. Caudill	Dr. M. C. Newton	
Dr. W. R. Gardner		

TAEZEWELL		
Dr. Isaac Peirce		

WARWICK		
Dr. L. E. Stubbs		
Dr. C. P. Jones		

WISE		
Dr. J. B. Wolfe	Dr. R. P. Stock	

Luncheon Meeting for Secretaries.

Secretaries of component and district societies in Virginia are arranging for a luncheon meeting at the Fairfax Hotel, at 1 P. M., Wednesday, October 22nd. The price of this luncheon is \$1.00 per plate. This is the first time there has been an attempt to have a gathering of local secretaries in Virginia, though the plan has been adopted with success by several other states.

The Virginia Pediatric Society

Will hold its annual luncheon at the Southland Hotel, Norfolk, at 1 P. M., Wednesday, October 22nd. The speaker for the occasion will be Dr. John Lovett Morse, of Boston, Mass., whose subject will be "The Thymus and Status Lymphaticus."

All members of the State Society are invited. Those who wish to attend this luncheon should advise Dr. Claiborne Willcox, Medical Arts Building, Norfolk, Va., not later than October 20th, in order that plates may be provided. Price of the luncheon is \$1.50.

The Alumni Association of the Medical College of Virginia

Will have a get-together luncheon meeting at the Southland Hotel, Norfolk, at 1 P. M. Wednesday, October 22nd, price \$1.25 per plate. Members who expect to attend should notify Dr. Julian L. Rawls, Medical Arts Building, Norfolk, chairman of the luncheon committee.

Dr. E. C. S. Taliaferro, president of the

Norfolk County Alumni, will preside. Speakers on this occasion will be Dr. Frank H. Hancock, Norfolk, Dr. Roshier W. Miller, Richmond, and Dr. Walter E. Vest, Huntington, W. Va., president of the Alumni Association.

Medical College of Virginia News.

The opening convocation of the Medical College of Virginia was held September 17th, at noon, in the Egyptian Building. Dr. Walter E. Vest, of Huntington, W. Va., and president of the general alumni association of the college, gave a talk on "Student Obligations." Brief remarks were made by the four deans of the school and the secretary-treasurer. President Sanger presided at the meeting which marked the beginning of the ninety-third session of the college. Classes convened in regular session at two o'clock that afternoon.

Dr. F. J. Wampler, professor of preventive medicine at the Medical College of Virginia, has been granted a leave of absence of ten months from the college in order that he may serve as a member of a commission sponsored by the Institute of Social and Religious Research of New York City to make a study of a group of missions in India. Similar commissions will be working simultaneously in Japan and China. Doctor Wampler's assignment is the medical and public health work carried on by the Indian missions. The three commissions under the supervision of a general director sailed early in October for the Orient.

Fundamental health services as performed by the Medical College of Virginia through its hospitals and clinics increased from a total of 55,866 in 1928-29 to 67,888 in 1929-30. This represents the largest increase in service for a similar period thus far recorded by the college. The gains in emergency room treatments, in visits by patients to the outpatient department, and in dental service are especially significant. In addition to the health services rendered, the college last year gave instruction to 879 students in its four schools of medicine, dentistry, pharmacy, and nursing.

Free dental work for white pupils of the Richmond public schools will be done during the session 1930-31 at the Medical College of Virginia. An appropriation of \$5,000 has been made the college to carry on this work.

The clinic started on Monday, September 15th, at McGuire Hall, and will be open from 2 to 5 o'clock on each school day and from 10 to 1 o'clock on Saturdays. A graduate operator and supervisor is in charge of this clinic and three undergraduate students will do the work under his instructions. The new plan was adopted for the 1930-31 session as a trial measure.

Gold Medal Awarded Dr. R. R. Spencer.

Dr. R. R. Spencer, U. S. Public Health Service, was awarded the Gold Medal by the American Medical Association at Detroit, in June, for original work in the preparation of a vaccine against Rocky Mountain spotted fever. A five-year record of practical prevention of this disease, achieved by Dr. Spencer, was the basis for the award.

Dr. Spencer is a native Virginian and an alumnus of the University of Richmond. He graduated in medicine from Johns Hopkins University, Baltimore.

Fellowships for the Study of Child Guidance.

A number of fellowships offered by the Institute for Child Guidance is another indication of the growing appreciation of the importance of the study and treatment of the mental difficulties of children. Six one-year fellowships of approximately \$2,500 each are offered to psychiatrists desiring to enter the child-guidance field. Applicants must have an M. D. degree from a class A medical school and be adequately grounded in the fundamentals of psychiatry. Three one-year fellowships of \$1,500 each are offered to psychologists with at least an M. A. degree, thorough grounding in the fundamentals of psychology, and a mastery of the technique of mental testing. Further information may be obtained from Dr. Lawson G. Lowrey, Director, Institute for Child Guidance, 145 E. 57th St., New York City.

Appointed to Represent Virginia.

Captain Nelson Mercer, M. C., Richmond and Captain Wm. Clyde West, M. C., Alexandria, were appointed by Adjutant General W. W. Sale of this State, to represent Virginia at the annual meeting of the Association of Military Surgeons of the United States, which met in Washington, D. C., September 25th-27th, inclusive.

Dr. and Mrs. J. Reginald Bailey,

Keysville, Va., returned from Boston, Mass., about the middle of September, Dr. Bailey

having gone there for special study at Harvard Medical School.

Dr. E. L. Kendig,

Victoria, Va., by invitation, recently appeared before the Kiwanis Club, of Lynchburg, Va., where he discussed the development of medical practice and surgery in relationship to orthopedic practice.

Pellagra Situation.

In view of the report by Dr. C. O'H. Laughinghouse, former executive secretary of the State Board of Health of North Carolina, that there is an alarming increase in the death rate from pellagra, it will be of interest to note the situation in this State.

Dr. Ennion G. Williams, State Health Commissioner of Virginia, in a recent bulletin states that, while pellagra was on the increase throughout the South generally, Virginia showed, between 1915 and 1924, a decreasing death rate from this disease. He, however, notes the unfortunate fact that since 1924 the death rate in Virginia has risen year by year. There were 75 deaths from pellagra in 1924, and 227 in 1929, 16 more deaths than there were from diphtheria and 103 more deaths than there were from typhoid.

As a suggestion, Dr. Williams strongly urges the use of fresh vegetables, especially at this time when pastures are so poor and it will cost so much to keep a cow. Beans and peas are rich in the pellagra-preventive vitamin. Virtually all vegetables have some of the pellagra-preventive vitamin, though none of them has such a high proportion as lean meat, and lean meat has less than powdered yeast.

"Mother's Pensions" in Nova Scotia.

Nova Scotia in May joined the company of the States and countries which grant allowances to mothers with dependent children, in order that the children may remain at home in their care. The first allowances are to be paid in October of this year. They are restricted to widowed mothers with two or more dependent children under 16, though exceptions are made in favor of mothers with only one such child in certain cases. The maximum allowance that may be granted to any one family is \$60 a month.

Dr. James C. Repass,

Recently of Raven, Va., has located at Lumberton, W. Va., where he will continue the practice of his profession. Dr. Repass is a

member of the class of '25, Medical College of Virginia.

Dr. Charles R. Robins, Jr.,

Son of Dr. and Mrs. Chas. R. Robins, Richmond, Va., sailed the latter part of September for Europe, where he will study for a year in Austria and Germany. Dr. Robins is a member of the class of '29, Medical College of Virginia.

The Southern Medical Association

Is preparing for a "big" meeting in Louisville, Ky., November 11th to the 14th, inclusive. An interesting scientific program including clinics, attractive entertainments and golf are in store for those who attend. Dr. Hugh S. Cumming, Surgeon General, U. S. Public Health Service, Washington, D. C., whom Virginia claims as one of her sons, is this year's president. The Chesapeake and Ohio Railway will run a special train to the Louisville meeting, known as the "President's Special." This train will operate out of Washington and Richmond, consolidating at Charlottesville. Members from Virginia and nearby states will wish to travel by this train. Special information about the meeting may be obtained from Mr. C. P. Loran, secretary-manager of the Association, Empire Building, Birmingham, Ala.

Meeting of Crippled Children's Commission.

The Crippled Children's Commission of Virginia, composed of Dr. E. L. Kendig, Chairman, Dr. J. B. Woodson, Dr. J. W. Witten, Frank Moore, Farrar Verser, and Frank Bane, secretary, met in Richmond on September 15th.

The purpose of the meeting was to begin the formulation of a policy for the State in looking after the needs of its crippled children, especially those whose parents have not the means to give them proper treatment. The big problem before the Commission at this time is to coordinate the private agencies and State hospitals now doing this work and to establish by the State a record system for its cripples and a follow up system for the cases treated.

The last General Assembly of Virginia made a moderate appropriation with which to begin this work. In order for this work to be a success, the cooperation of the physicians of Virginia is necessary.

The American College of Surgeons

Will hold its Clinical Congress in Philadelphia, October 13th to 17th, inclusive, at the

Bellevue-Stratford Hotel. Surgeon General Merritte W. Ireland, U. S. Army, Washington, D. C., is the retiring president; Dr. C. Jeff Miller, New Orleans, La., president-elect; and Dr. Franklin H. Martin, 40 East Erie Street, Chicago, Ill., is director general. Several foreign guests will be among the prominent speakers.

Orphans From Birth.

The grave importance of the care of mothers before and at the birth of a child is indicated by the enormous number of persons—about 400,000—now living in the United States, who have been handicapped from birth by the loss of their mothers. The Metropolitan Life Insurance Company, which published this estimate, also states that about the same number have never known paternal care, their fathers having died before they were born.

Married.

Dr. Henry Charles Davis, Grundy, Va., and Miss Vida Louise Looney, Welch, W. Va., August 30th.

Dr. Charles R. Anderson and Miss Lena R. Riley, both of Winchester, Va., August 21st.

Dr. Lewis Abner Law, Alberta, Va., and Miss Evelyn Virginia Thompson, Lexington, Va., September 3rd.

Dr. Thomas Henning Anderson, Lawrenceville, Va., and Miss Ruth Sullenberger, Monterey, Va., September 25th.

Dr. Thomas Boyd Washington and Mrs. Effie Daniel Ansley, both of Richmond, Va., September 1st.

Dr. William M. Dick,

An alumnus of the Medical College of Virginia, class of '26, after several years at Elizabeth Buxton Hospital, Newport News, Va., has gone to New York City, and is connected with the Ear, Nose and Throat Service at Bellevue Hospital.

The American Therapeutic Society,

At its annual meeting held recently, elected Dr. Clement R. Jones, Pittsburgh, Pa., president; Dr. William J. Mallory, Washington, D. C., a vice-president; and Dr. Grafton Tyler Brown, Washington, D. C., secretary.

Dr. William B. Dudley,

Formerly of Martinsville, Va., recently returned from New York where he spent a year specializing in eye, ear, nose, and throat work, and opened offices the first of September in South Boston, Va., to practice his specialty.

Dr. C. B. Crute,

Farmville, Va., has been appointed child welfare officer of the Jack Garland Post No. 32, American Legion, of that place, for the ensuing year.

The American Public Health Association

Will hold its 59th annual meeting in Fort Worth, Texas, October 27th to 30th. Nearly two hundred speakers will address the forty-four sessions and symposiums which will be held during the four days of the convention. Two of the speakers will be the president of the American Public Health Association, Dr. A. J. Chesley, Commissioner of Health of Minnesota, and Dr. Hugh S. Cumming, Surgeon General of the U. S. Public Health Service of the United States. There will be about fifty manufacturers exhibiting products and equipment used by public health workers.

An interesting entertainment feature of the convention will be a Texas barbecue and rodeo. There will also be several inspection trips, and special trips have been planned to many other cities in Texas.

Further information may be received from Homer N. Calver, executive secretary of the American Public Health Association, 370 Seventh Avenue, New York City.

Harmon Foundation Award Goes to New York City.

The work of the diphtheria-prevention commission of the department of health of New York City has been recognized by the grant of the Harmon Foundation award for the best public health education record for the year by an agency in a city or country of more than 200,000 population. The commission hopes to eradicate the disease from the city completely by 1935. Plans are being made to continue the immunization work, beginning in the fall, by the examination of 1,200,000 school children and 400,000 pre-school children. The health commissioner has asked for six new health stations and for 200 additional nurses to be supplied in groups of fifty at intervals of three months to help in the campaign, and he has appealed to members of county medical societies to do the work of immunization for a definite and limited fee.

Dr. George B. Lawson,

Roanoke, Va., was re-appointed a member of the Virginia State Board of Health by Governor Pollard, early in September.

Dr. John L. Thornton

Has returned to his home at Warrenton, Va., after sometime at Mt. Regis Sanatorium, Salem, Va.

The Inter-State Post-Graduate Medical Association of North America

Will hold its International Medical Assembly in Minneapolis, Minn., October 20th to 24th, inclusive, under the presidency of Dr. William D. Haggard, of Nashville, Tenn. All medical men and women in good standing in their respective County, State, National, Provincial, or Dominion Societies (component parts of the American and Canadian Medical Associations) are privileged to register, the fee being \$5.00. The entire Assembly will be housed in the Municipal Auditorium. The speakers and those holding clinics are men of international prominence.

Further information may be obtained from Dr. William B. Peck, Managing Director, Freeport, Ill., or from Dr. Edwin Henes, Jr., 445 Milwaukee Avenue, Milwaukee, Wis., Executive Secretary and Director of Exhibits.

Sight-Saving Classes in Public Schools.

Last year 350 sight-saving classes in the public schools of ninety-five cities in twenty-one States were teaching children with little vision how to conserve their remaining sight. The National Society for the Prevention of Blindness reports that the children were given the same sort of education as children with full vision, through the use of large-type books, movable desks, correct lighting, and special teaching methods.

The National Institute of Health.

By an act of Congress approved May 26, 1930, the Hygienic Laboratory will hereafter be known as the National Institute of Health of the U. S. Public Health Service. Public health investigations by the Public Health Service were first authorized in 1901. Since then substantial progress has been made and many new facts have been discovered which have had an important bearing on the prevention and control of disease. The necessity for this work far outstripped the facilities for its conduct. Under the above-mentioned authority, these facilities may be greatly enlarged.

In its development the new institute will have the advantage of the traditions of the Hygienic Laboratory, and, with enlarged facilities, will be devoted to investigations of the underlying problems not only of com-

municable diseases but of degenerative diseases and environmental conditions affecting health.

In aid of this work the Secretary of the Treasury may hereafter accept gifts to be held in trust and used for the purposes mentioned: the expenditures to be safeguarded in all respects as are other governmental funds. These gifts may also be used for the establishment of fellowships to encourage individual scientists. Appointments and services under these fellowships will be governed by laws and regulations affecting the U. S. Public Health Service. The object is to encourage post-graduates of extraordinary ability and to aid them to follow permanently their scientific bent in the interests of humanity.

Dr. Stuart O. Foster

Has re-located in Washington, D. C., after a year and a half of post-graduate study in the various clinics of the East. He has offices in Medical Science Building and will limit his work to internal medicine. Dr. Foster practiced for a time in Roanoke, Va., before going off for post-graduate work.

Dr. Meade Edmunds,

Petersburg, Va., was recently elected president of the Lions Club of that city, for the year beginning October 1st.

Children's Memorial Clinic to Have Additional Psychiatrist.

Dr. Anna Josephine Gosline has been appointed by the Commonwealth Fund of New York for a year's training at the Children's Memorial Clinic, Richmond, Va., thereby giving the Clinic the services of an extra psychiatrist without expense. This Clinic has been selected by the National Committee on Mental Hygiene for receivers of fellowships for training in extramural psychiatry, an honor afforded few clinics in the United States. Dr. Gosline, a native of Germany, has studied in her own country and at Yale University, and later at Baylor Medical College, Dallas, Texas, from which she graduated in 1926.

Rural Health Service.

Studies and demonstrations have been conducted by the U. S. Public Health Service in rural sanitation since 1916, since when notable progress has been made. For the period beginning January 1, 1930, 505 counties or districts were provided with local health service under full-time local (county or district) health officers. This shows a net gain of 38 over the preceding year. The largest gain in one State

was that of 15 in Tennessee. Over 76 per cent of the rural population of the United States is as yet unprovided with official local health service which approaches adequacy.

Are First-Born Children More Troublesome Than Others?

First-born children from small families have presented behavior problems more often than later-born children from small families, in the cases brought to the child-guidance demonstration clinics, operated under the auspices of the National Committee for Mental Hygiene.

Notice of Examination for Entrance Into Regular Corps of the U. S. Public Health Service.

Examination of candidates for commission as Assistant Surgeon in the Regular Corps of the U. S. Public Health Service will be held November 3, 1930, at the following-named places:

Washington, D. C.

Chicago, Ill.

New Orleans, La.

San Francisco, Cal.

Candidates must be twenty-three years and not over thirty-two years of age. They must have been graduated in medicine at a reputable medical college, and have had one year's hospital experience or two years' professional practice. They must satisfactorily pass oral, written, and clinical tests before a board of medical officers, and undergo a thorough physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Request for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

Dr. Edwin B. Thompson,

Of the class of '17, Medical College of Virginia, who has been practicing for several years at Ethel, W. Va., announces that he has now located in Montgomery, W. Va., and has opened offices over the Henderson Drug Store, 406 Fourth Avenue.

Money Value of a Man.

A child in a family of \$2,500 a year income class, by the time he reaches the age of 18 years, has cost his parents a total of \$7,425, according to estimates founded on statistical studies of the Metropolitan Life Insurance Co.

This sum includes the cost of being born and of food, shelter, clothing, public-school education, medical care, recreation, and other miscellaneous expenditures for 17 years.

Dr. Martin Lasersohn,

Who practiced for several years in Richmond, Va., where he was also connected with the Medical College of Virginia as an associate in medicine, left this city in the summer, to accept a position as one of the medical directors of the Winthrop-Metz Chemical Company, of New York. Dr. Lasersohn is engaged in clinical research work with this organization but has his residence at 136 West Seventy-fifth Street, that city.

Dr. C. C. Cooley,

Of the class of '29, University of Virginia, Department of Medicine, after a year's internship at Norfolk Protestant Hospital, Norfolk, Va., has located for practice at Catlett, Va.

Reduction in Infant Mortality.

According to a report just issued by the American Child Health Association, there has been a downward trend of infant mortality in the cities of the United States during 1929.

Next to the rate of 64.9 attained in 1927, the rate for 1929 is the lowest ever recorded for the cities of the country, 66.2 deaths among each thousand. The decline has been almost continuous since 1915 when the Birth Registration Area, formed for the collection of dependable information, was organized.

The report covers 720 cities in the Birth Registration Area which now includes forty-six states and the District of Columbia, which have satisfactory registration laws and record 90 per cent of the births. The figures in the report are drawn from the provisional summaries of the United States Census Bureau and from state and local authorities.

Dr. Allen H. Moore,

Formerly of New Market, Va., but for several years located at Doylestown, Pa., has recently been appointed general consultant to the Bell Telephone Company from the Philadelphia office.

Dr. Moore is also consulting physician to the school and infirmary of the National Farm School, near Doylestown, and lectures to the student body on Applied Hygiene.

Immunizing Program Aided by Red Cross.

Attention to child health in many progressive states, particularly among school children, is a contributing factor to better national

health. Immunization against such diseases as diphtheria, smallpox, measles and others formerly associated with child-raising is an important step in the program.

State and local health officers usually direct such work, but in many communities, particularly rural, the Red Cross public health nurse is an important aid. One of the duties of such nurses is to assist local health work by co-operating with the responsible authorities in carrying it forward. Virginia is one of the states engaged in this cooperative effort.

Antitoxins, and other materials required, usually are provided through the state health departments but where the Red Cross nurse or the Red Cross Chapter under which she serves, must obtain them, it is customary to buy through local sources; that is, reputable drug firms and dispensaries in the community.

The Red Cross emphasizes its health-building services in urging each year, the enrollment of every one in its ranks as a member, because the support of a large membership makes such work possible throughout the country. Enrollment this year is from November 11th to 27th, though some local chapters will enroll members sooner.

The U. S. Civil Service Commission,

Washington, D. C., announces open competitive examinations for: Medical Officer, Associate Medical Officer, Assistant Medical Officer, and for Social Worker (Psychiatric) and Junior Social Worker, applications for same to be on file with the Commission, not later than December 30, 1930.

Turkey Restricts the Employment of Children.

In a recent public-health act Turkey has forbidden the employment of children under twelve years of age in factories, workshops, or mines, and of children between twelve and sixteen after 8 P. M. Municipal councils are required to forbid the employment of young persons under the age of eighteen in bars, dancing establishments, cafes, and baths.

Obituary Record

Dr. Charles Ewing Dyer,

Majestic, Ky., died suddenly August 28th, aged fifty. He was formerly of Pulaski, Va., where his family continued to make their home. Dr. Dyer graduated from the Medical College of Virginia in 1904. He was an interested

member and a past vice-commander of the American Legion and was a member of the Medical Society of Virginia for nearly twenty-five years before resigning when he moved to Kentucky. Dr. Dyer was first lieutenant in the medical corps and saw service overseas.

Dr. Louis Mackall,

Washington, D. C., died July 27th, of myocarditis. He was sixty-three years of age and a graduate of the Medical Department of the former Columbian College, Washington, in 1890. Dr. Mackall was a past president of the Medical Society of the District of Columbia and had been a member of the Medical Society of Virginia for the past fourteen years.

Dr. Noah Frederick Schmucker,

A highly respected and beloved physician of near Mt. Jackson, Va., died September 14th, while attending an obstetrical case. His case was one of twins and after delivering the first baby, he suddenly fell from his position at the bedside and was dead before other physicians could reach him. Dr. Schmucker had had diabetes for several years and only the day before had returned from Dr. Joslin's clinic in Boston where he had been for advice and treatment. He was born September 16, 1871, at Toms Brook, Va., and lived there until early manhood. He graduated at Baltimore Medical College in 1897, and moved to Mt. Clinton, Va., where he practiced medicine until the time of his death. His wife survives him.

Dr. Elijah Bell Whitehurst,

Beaufort, N. C., died July 8th, at the age of thirty-seven years. His death was due to pneumonia. Dr. Whitehurst was a member of his State and local medical societies and was an alumnus of the Medical College of Virginia, having graduated from that institution in 1917.

Dr. Charles O'Hagan Laughinghouse,

Prominent physician of Raleigh, N. C., died August 26th of heart block as a result of embolism. He was fifty-nine years of age and a graduate of the University of Pennsylvania, School of Medicine, in 1893. Dr. Laughinghouse had been the recipient of many honors from the medical profession of his State. Among these, he was secretary of the North Carolina State Board of Health and State Health Officer, and was also past president of the Medical Society of the State of North Carolina.

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FRUIT JELLY (Six Servings)

	Grams	Prot.	Fat	Carb.	Cal.
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¾ cup cold water
1½ cups boiling water
¾ cup lemon juice or 1½ teaspoons citric acid	40	4
Grated rind of one lemon . . . . .	....	....	....	....	....
1½ grains saccharin . . . . .	....	....	....	....	....
6 sections orange	75	1	....	9	....
6 sections grapefruit	90	.5	....	9	....
Total	7.5	....	22	118	
One serving	1	....	4	20	

Soak gelatine in cold water five minutes. Boil water and rind for two minutes. Add to gelatine and stir until dissolved. Add lemon flavoring and saccharin, strain and chill. Cut each section of fruit into three pieces. When jelly is nearly set, stir in cut fruit, mold, chill until firm and serve plain, with thin cream or whipped cream.

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There is such a great difference in gelatines that it is very necessary to designate the kind of gelatine.

For example, our attention has just been called to a case for which a physician prescribed "gelatine" in the diet of a diabetic. When indications of acid developed it was learned that the patient had unwittingly been using a ready-flavored jelly powder containing about 85% sugar, 2% acid-flavoring, 12% gelatine and coloring matter.

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Virginia Medical Monthly

OFFICIAL ORGAN OF THE MEDICAL SOCIETY OF VIRGINIA

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PRESIDENT'S ADDRESS.

By CHARLES R. GRANDY, M. D., Norfolk, Va.

When the Medical Profession of a state elects a man its President and thereby makes him its leader, it not only confers upon him the highest gift in its possession, but places upon him a debt which he can only repay by giving the Profession the best thought and the most earnest work of which he is capable not only during the term of his office but during the succeeding years. It is, therefore, a president's duty to acquaint himself as well as he can with conditions affecting the medical men all through the state, to compare them with the other states and countries, and, if he can, formulate plans which will improve the future status of the Profession. This is for me not only a pressing duty, but, if I have in the smallest way been successful, it will prove the greatest pleasure and satisfaction of my professional life.

My first duty then is to try to evaluate the work of the Medical Society of Virginia and of its component societies and see if any improvements may be suggested that will be of distinct value to the Profession.

There are two sides to a medical society as there are to every medical man, the Scientific or Educational side and the Business or Economic side. The two are complementary and of equal value to the doctor. They should be developed coincidentally or else the medical man or the medical society will become one-sided. Nevertheless from the practical standpoint the two are generally better developed independently.

The first question, therefore, is are the medical men in Virginia getting adequate service in both these directions? If applied to the whole state I am afraid that the answer will have to be an emphatic "No," on neither side are the Virginia doctors given all that they should have from their medical societies,

though some sections are getting more than others.

If I may first take up the educational side, we have all recognized that we have not had the proper opportunities for the increasingly necessary post-graduate education, and last year we adopted a plan from which sprang our Department of Clinical Education which has received a great deal of commendation both from within and without the state. This Department purposes to foster post-graduate education wherever it may be obtained, to direct it along proper courses, and to furnish clinical teachers and instruction when it is desired. For most of the past year this Department has been functioning and through the VIRGINIA MEDICAL MONTHLY and many personal and form letters it has stimulated a wide, deep interest in post-graduate education.

We first found that within the borders of our state there were many sources of post-graduate education which were already at the service of some of our members and which could easily be made to take care of many others. I am, of course, referring to our larger local or group medical societies whose doors can be opened to men outside of their present boundaries by simply publishing their programs the first of each month in our state journal and by extending an invitation to all members of the Medical Society of Virginia. Added to this, very good Clinical Days were held in Richmond and Norfolk to which outside physicians were invited. They were well attended and the visiting doctors expressed deep appreciation of the clinics and hoped they would be continued as an annual affair. I feel that the Roanoke Academy of Medicine is also in position to put on an annual Clinical Day and trust that it may do so. The two Medical Colleges of the state likewise conducted their customary fine Post-Graduate Clinics, which should be even more largely attended than heretofore.

In only one way have I been at all disap-

*Address of the President at the sixty-first annual meeting of the Medical Society of Virginia, in Norfolk, October 21-23, 1930.

pointed in the working of this Department. We had hoped and planned to give actual demonstrations of clinical meetings in different parts of the state, entirely conducted by the Department which also would furnish the clinicians. This we were, however, only able to do at Richlands. While this meeting was a distinct success, it is a pity that this single demonstration was only given before the Clinch Valley Medical Society which was already accustomed to similar meetings and was fully aware of their value. I feel sure, however, that the Medical Profession of Virginia as a whole is impressed with the great value of this Department and wants it continued and made a regular part of our program.

There are, however, certain obstacles which should be cleared away so as to allow us to offer post-graduate education to all members of the Medical Society of Virginia. We have found that to be of the greatest service post-graduate education should be offered through an existing medical society. Now we know that it is impractical to maintain an efficient medical society in the smaller Virginia counties. We, therefore, feel that group societies should be formed to furnish facilities for clinical meetings for every man in Virginia without taking him too far away from his practice. With the present day automobile and good roads this now seems perfectly feasible. These group societies should, however, be only for scientific or educational purposes, the business or economic side being left entirely to the county units. The organization of these group societies should be as elastic as possible, the local men deciding on their own programs and time for meetings, although they will always be aware of the fact that the Department of Clinical Education is ever ready to help them with their programs. There are already many group societies in existence which should be used wherever it is practical, but the men of a county should be allowed to split off from one group society and join another when they feel it is to their distinct advantage, always remembering that these group societies are merely educational and not economic or political.

There is one criticism that I feel I must make while discussing this side of our Society work. We are expecting too much time and service from our unpaid officers. As well as I can judge from a distance, Dr. Hodges has

given the major part of his time and energy to promoting the Department of Clinical Education, possibly at the sacrifice of his own health. He has given this service gladly and unstintingly, but we cannot always expect to find a president-elect who can spare so much time from an exacting private practice. There will be more and more field work for this Department and the time will come when we will need an active, young, medical man who can go out through the state and arrange for these clinics in advance, as well as see that they are properly conducted. Other states have such paid Traveling Secretaries, who are apparently doing splendid work. The main trouble is the cost of employing such a man. The Medical Society of Virginia with its present dues has an income of something like five thousand dollars a year exclusive of the VIRGINIA MEDICAL MONTHLY. We evidently cannot afford to pay an adequate salary to a Traveling Secretary as well as keep up the other functions of our Society. In some states clinics are financed by fees paid by the men who attend them. These fees are said to vary from five to twenty-five dollars, and are apparently gladly paid for good clinics given by first-class men, who also receive compensation for their time. I think that this is a matter which our House of Delegates should consider most carefully, as we should have in Virginia a Profession whose efficiency is universally recognized both within and without its confines.

Let us now turn to the business or economic side of the Profession. I will leave it to the individual doctor to say whether he is satisfied with his present business status, whether his practice is holding up, whether his collections are as large as he would ask, and how he views his future. The answers will, of course, vary greatly, but from medical literature a general spirit of pessimism seems to be oppressing the members of our Profession, although it may be said that this same pessimism is also overshadowing all forms of business and that we may be no worse off than others financially. Nevertheless, if we can believe what we hear at medical meetings and what we see in newspapers and in popular and professional magazines, there seems to be great dissatisfaction both with the Medical Profession, and within its ranks.

There seems to be a lack of understanding

between the Medical Profession and what we call the Laity, which is now demanding general reforms from us in a business way. We are said to be out of step with the present business world. We are called old-fashioned and individualistic and there are demands that we adopt the methods of big business in combining, so as to lower the costs of medical service. In some places they are even going further and demanding that the Government furnish medical service *en masse* with scant consideration of the wishes of the patient or the remuneration of the doctor. In this we as well as a large part of the world seem to have followed the example of Germany whose "Wonderful Efficiency" has arranged it so that each *Kranken Kasse* doctor must see from ninety to one hundred patients a day and fill out a report for each case in order to get his rather meager salary. The patient apparently has no choice in regard to his doctor and so there is said to be dissatisfaction on all sides, although the Government Insurance Companies doubtless profit greatly under this very efficient arrangement. Our own Government indeed seems to have taken the first steps in this direction for Congress is now willing to furnish an allowance and free treatment in Government Hospitals to anyone who was in service during the War, whether he went over-seas or not, or whether his disability was contracted in service or after the close of the War. The only excuse for all this seems to be the old German ideal of efficiency.

It seems strange that we entered the War to overcome Germany with her boasted "Efficiency" and "to make the world safe for Democracy." We did succeed in overthrowing the German Imperial Government and in capturing her "Efficiency," which we brought back bound to the United States. But soon this "Efficiency" was able to break its bonds and after a little while it swallowed up our old ideals of Honor and Personal Liberty, which we had considered the cornerstones of our democratic form of government. So we have raised "Efficiency" to a pedestal and most of us, at least most of us in our business organizations, seem now to worship it as our greatest god. And certainly up to this year we put it ahead of everything else and condemned everything that did not measure up to this Efficiency.

Now we of the Medical Profession have not been in whole-hearted accord in placing Effi-

ciency above everything else. We do believe in Efficiency although we do not consider it as our greatest ideal and do not cast ourselves down and worship its golden image. We rather consider it along with fire as an excellent servant, but as a most terrible master. We still hold to the old Jeffersonian ideals of honor and personal liberty and make life and its preservation our standard rather than mere dollars and cents. It is, therefore, not strange that Medicine and Modern Business do not understand each other for they have different ideals and standards, as we still adhere to Democracy, while they are turning more and more to Fascism.

Up to a year ago Big Business could brag of the success of its fascist policy, but this year with the large number of unemployed and the long bread lines of the big cities we are not so certain and we wonder if our many sacrifices to the foreign god Efficiency have been worth while. On every side thoughtful people are asking: "Have the people really benefited from the privilege of buying automobiles and radios, fur coats and silk stockings on credit and so making themselves incapable of taking care of more vital needs such as unexpected illness?" "Is the machine efficiency which must result in the dismissal of really capable workers of real benefit to the country at large?" "Are we really prosperous because we have given up saving accounts and our homes for automobiles and fine clothes, and when the majority of our people are in debt for things which they were persuaded to purchase by high pressure salesmen?" We doctors doubt it, especially when we realize that we are selling our personal liberty for this fancied prosperity, which seems to be a real prosperity only for a few men living in the large cities.

When we look at what is happening in Europe we find that neither Communism nor Fascism has been of benefit to the Medical Profession, which seems to have been exploited by both, in the first instance supposedly for the sake of the Proletariat and in the second in the name of Efficiency. But, as the end result of both of these forms of government seems to be an absolute dictatorship, it is not strange that a profession whose very life depends on freedom of thought and action should be crushed under both. There is only one form of government which fosters freedom for all

its citizens and that is Democracy, which was bequeathed us by our forefathers. I cannot understand how any intelligent citizen can for a moment consider relinquishing his freedom of thought and action for the Efficiency which can only promise a fancied Prosperity, which is even now breaking down. And it is even more incomprehensible, when I see the Medical Profession sitting inertly and allowing its freedom and its present privileges to be taken away without a struggle. The strange thing is that the people too do not want their choice of a doctor taken from them even if by so doing they may save some money, for when it comes to his own family the ordinary man does value life above mere money, however, he may talk in regard to someone else's family.

In other countries such as England, Germany and Belgium, the Medical Profession has allowed the politicians to bind them so that the government may in some way appease the Proletariat, whom the politicians greatly fear. And now the Profession in these countries is powerless and cries out in vain for help, while the people are dissatisfied with the class of medical service they are getting under this arrangement. If the medical men in these countries had been prepared and had fought the politicians before they were elected to Parliament the results might have been very different.

I am, therefore, appealing to the members of the Medical Profession to be so prepared that they may not fall into the sad plight of their brethren across the sea. To do this the doctors in every county should organize and keep in touch with what the politicians are proposing and be ready to fight the one who is trying to take away their liberties, primarily for his own ends. I am no politician and trust that I will never be forced to enter the political arena. But I feel sure that the time has come when the Medical Profession in the United States must put itself in a position where it can defend itself on any side on which it is attacked, and the most likely side of attack seems to be the political one.

Happily I feel we can appeal to the voters at large, as we can come to them as the defenders of Personal Liberty, which is the birthright of all American citizens, and with their support we should be able to defend it either against the Czars of Big Business or the Stalins of Communism. But we must be ready

ourselves and in a position to stimulate the patriotism of the American people, who are already getting tired of our sham prosperity, which is being used to make us all the serfs of a few men in the big cities. But let us be sure that when the revolt comes it will carry us back to the old Democracy of Thomas Jefferson and not to the Bolshevism of Russia.

And now to sum up, I beg that through our Group Societies you make yourselves so professionally efficient that you will deserve the full confidence of the people, that you show yourselves good citizens by taking an active interest in the affairs of your community, that you join your county societies so that you all may be able to keep in touch with political movements and be ready to fight in its incipency any effort directed against our personal freedom of thought or action.

We doctors have the education and the freedom of thought which should make us leaders, but we have not taken advantage of this opportunity. At this time the call comes to us to be up and stirring not only for our own protection but for boasted Liberties of America.

Are you men ready to do your part?

ROENTGEN TREATMENT OF HYPERTHYROIDISM.*

By WRIGHT CLARKSON, M. D., Petersburg, Va.

About thirty years ago a well-known tobacco company advertised one of its favorite brands of chewing tobacco, called "Schnapps," by means of a cartoon showing a revolving wheel, about the periphery of which was a series of shoes with the toes continuously kicking a man in the seat of his pants, and under the cartoon was written a phrase something like this: "This man claimed to have a brand of tobacco as good as Schnapps." To my mind, this quite well illustrates the attitude of a few of our surgeons towards those who attempt to cure, by physical means, any of the well recognized pathological conditions which are amenable to surgery. Fortunately, the percentage of surgeons taking this attitude today is very small, for the medical profession as a whole is looking to the future with an open mind, ready to accept any remedy that can be proved worthy.

About ten months ago, at a clinic held in the Memorial Hospital, in New York City, as

*Read before the Post-Graduate Medical Society of Southern Virginia, July 15, 1930, as part of a Symposium on Diseases of the Thyroid.

part of the annual meeting of the American Roentgen Ray Society, I had the privilege of listening to a speech made by the President of the Royal Academy of Surgeons, of Great Britain, and was very much struck with his attitude. He stated that he was using irradiation instead of surgery in as many conditions as were amenable to irradiation. This certainly indicates that he had seen good results from irradiation therapy.

By means of improved technique and adequate preparation of the patients, our surgeons have reduced the mortality rate, following the surgical treatment of hyperthyroidism, to approximately 1 per cent; and yet, if we can find another remedy that will give as good results as surgery, we will, I am sure, all welcome it.

Since the adoption of our present methods of treating hyperthyroidism with irradiation, sufficient time has not elapsed to positively prove its value, but current reports in medical literature indicate that the results compare favorably with those obtained by surgery, and my experience has certainly borne out this conclusion.

It is no longer necessary to produce masses of scar tissue to interfere with the surgeon's procedure of operation; in fact, it is unnecessary to produce even a redness of the skin in our modern roentgen treatment of hyperthyroidism, and some of our leading surgeons are now stating that roentgen therapy not only does not handicap them in their operative procedures on the thyroid, but renders a patient a better surgical risk.¹

Among the best recent publications on roentgen irradiation of hyperthyroidism is that which appeared in the *Journal of the American Medical Association* of May 25, 1929, by Groover, Christie, Merritt, Coe, and McPeak. These gentlemen give detailed statistics in regard to the treatment of 305 cases, and, as usual, are very conservative in their remarks. The length of time the patients were observed was as follows: Fifty-five patients for less than one year, seventy-one patients from one to two years, fifty-four patients from two to three years, fifty-five patients from three to five years and seventy patients from five to eleven years. They report cured of hyperthyroidism 271 patients, or 88.85 per cent, improved 8.52 per cent, and unimproved 2.63 per cent. Krause,² Stevens,³ and others

have reported similar results, and since irradiation may be given without danger to the patient, it seems logical to treat at least those severe cases which constitute grave surgical risks.

The roentgenologist, as well as the surgeon, should make a very careful analysis of each patient presenting himself for treatment of hyperthyroidism, and special care should be taken to recognize malignant growths of the thyroid, for statistics show that these constitute about 1.6 per cent of all the patients with thyroid disease,⁴ and in these cases massive doses of deep X-ray therapy are absolutely essential, as well as surgery in selected cases.

The details of the roentgen treatment will probably prove uninteresting to those outside the field of roentgenology, so I will only briefly outline the more important points: Some years ago, thyroid treatments were given by means of large X-ray doses of low voltage and with very little filter. These treatments frequently caused atrophic skin changes and were followed by a marked fibrosis of the tissues surrounding the thyroid gland. This was quite a handicap to the surgeon in those cases of failure which finally went to operation. Our present technique is that of high voltage, heavy filter and short exposures at intervals varying from ten days to three weeks. We no longer get X-ray erythemas or marked fibrosis in the thyroid area. The patients suffer no discomfort and usually respond rapidly to the treatment. Care should be taken to irradiate the thymus gland as well as the thyroid because the thymus is so frequently enlarged in thyrotoxicosis.

Just as pre-operative treatment has greatly reduced the mortality of surgical removal of the thyroid, so general care of the patient has greatly helped the roentgenologist by increasing the percentage of cures by irradiation. The acutely ill patients should be put to bed, and all foci of infection removed. It is quite surprising how many of these cases have bad tonsils, abscessed teeth, sinus infections, etc., and it is not unlikely that these infections play an important part in the production of hyperthyroidism. Frequent basal metabolism tests should be made and the roentgen treatments discontinued as soon as the rate becomes normal. If these methods of procedure are carried out, a very large percentage of hyperthyroid cases seem to be permanently relieved.

I trust no one will think that I wish to minimize the efficacy of surgery in dealing with thyroid diseases, for our surgical colleagues are chiefly responsible for the great accomplishments in this field during recent years, and since surgery is giving such excellent results I am, at present, confining my treatments of thyroid diseases to those cases of hyperthyroidism which are thought to constitute grave surgical risks. It must be said, however, that thyroid irradiation has advanced to the stage where it demands general recognition, and it is hoped that the medical profession will not be slow in taking advantage of the carefully tested achievements of the radiologists in the field of hyperthyroidism.

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30 Franklin Street.

THE RELATION BETWEEN GENERAL MEDICINE AND MENTAL HYGIENE— A LOOK AHEAD.*

By WILLIAM FRANCIS DREWRY, M. D., Richmond, Va.
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Public Welfare.

The physicians and surgeons who constitute the membership of this Association are second to no others in achievement in the field of the science and art of medicine; and within your territorial domains there are both public and private hospitals which represent the most approved types of institutions for the diagnosis and treatment of the various physical and mental ailments of human beings. Naturally, therefore, I am greatly your debtor for the honor you do me in giving me this opportunity of attempting to show the benefits resulting from a closer relationship between the departments of medicine to which you devote your talents and time, that is, the diseases of the human body, and that branch to which I

give special study and service, the disorders of the mind. I had, however, experience as a country doctor in my early professional life, which has been of value to me in my psychiatric work. Neither your efforts, nor mine can be successful unless there are reciprocal relations.

The story of mental hygiene is one full of intense human concern. As a movement it is one behind which there has been from the start dynamic action that should challenge the interest and support of the medical profession, the public health official, the psychologist, the trained nurse, the social worker, the teacher, the parent, and all others interested in the betterment of the human race. The International Congress on Mental Hygiene, held this year in Washington, D. C., under the auspices of the National Committee for Mental Hygiene, was one of the most informative meetings I have ever attended. The large number of physicians attending and participating indicated interest of the medical profession in the subject. It appeared to me, however, that there was present a comparatively small number of general practitioners.

All physicians should think seriously on the problems of the mind and its mechanism out of order and help in every possible way to solve them, to the end that mental disease and defect, and their consequences, such as poverty, delinquency and crime, may be reduced. But that is not all. It is their duty, yours and mine, to contribute not only to the prophylaxis and cure of such ailments, but to the development of positive mental health, so that the highest possible degree of efficiency, happiness, and correct behavior, may be attained. These are the objectives of mental hygiene. In discussing a paper read by the speaker before the Medical Society of Virginia* on "A State Mental Hygiene Program," Dr. James K. Hall, Consultant Psychiatrist to the State Bureau of Mental Hygiene, said:

"The function of mental hygiene is to enable man to bring his mind up to the highest level of development, to teach him how to preserve and protect it, and how to deal with the mind in its state of sickness."

The best scientific medical thought is now being crystallized in a movement, which promises to bring about better understanding of mental disorders and their inter-relationship

*Read by invitation before the Southwestern Virginia Medical Society in Christiansburg, September 23-24, 1930.

*Annual meeting at the University of Virginia, October, 1929.

with physical and social conditions. Students of the medical sciences have witnessed for some years a constant broadening and humanizing of the conception of psychiatry which has been furthered by the mental hygiene movement inaugurated twenty-two years ago by Clifford Beers who was for several years a patient in a mental hospital. The achievements of psychiatry in the present generation are reflected to a large extent in the development of mental hygiene. In fact its advent marked a new era in the history of mental disease. In psychiatric literature the word insanity is not mentioned as often as formerly, because it now signifies especially a mental condition in which the individual's behavior is so changed as to cause him to be such a menace as to warrant his legal commitment and control. The term mental disorder, on the other hand, has come to have a broader interpretation than the term insanity, in that it may include not only the abnormal condition, classed especially as insanity, but all other conditions in which there is a departure from the usual, or so-called normal state of mental health.

Every observing physician knows that practically everyone suffering from physical disease, or injury, suffers also more or less from disturbances of the nervous system. There is no state of bodily suffering of whatever degree, whether functional or organic, which does not include an emotional factor among its constituent parts. Often there is in physical disease disturbances in the psychic sphere, which may assume the seriousness of a genuine psychosis and mental disturbance is known to bring on physical ailments. Referring to the close relationship between body and mind, Dr. William A. White, of Washington, D. C., says: "If you have followed the development of psychological thought in recent years, you will realize that the distinctions that have grown up between mind and body are being gradually dissolved. To use a biological term, we have come to think of the organism as a whole and to deal with it therapeutically from that point of view."

It is particularly in the early stages of mental disorder, or in the borderline mental conditions, which usually first come under the observation of the attending physician that capable psychiatric service is of special value. It is under such circumstances that the attending physician feels the need of at least a fair

understanding of mental and nervous diseases. The psychoneuroses are among the most difficult problems with which the general practitioner has to deal, and on account of their great frequency he should be qualified to diagnose and treat them, especially if a neurologist or a psychiatrist is not readily available. He occupies a place of vantage in giving information relative to symptoms and to prevention of disease and preservation of health—mental and physical. He can, with more force and effect than anyone else, tell the people that so-called insanity—or mental disorder, a less objectionable term—is a condition due to many causes, some known, some unknown, that it is not necessarily a chronic or an incurable malady, and that just as large a percentage of patients recover their normal mentality or improve under prompt treatment by competent physicians and good nurses as is the case with diseases designated as physical.

The competent psychiatrist recognizes that if he would obtain the best results in his practice he must have, in addition to a fair knowledge of physical disease, the benefit of the skill of the internist, the pathologist, the neurologist, the surgeon, the pediatrician, the obstetrician, and other medical men as well as the dentist. Psychiatrists readily admit that they have contributed little to the definite knowledge of the etiology of mental disease; so they are desirous of joining with general medicine in making intensive studies, laboratory investigations, and every other kind of research, in quest of more knowledge relative to causes, prevention and treatment. Let me quote a pertinent paragraph from a paper read last February before the New York Academy of Medicine by Dr. Arthur H. Ruggles, of Rhode Island, President of the International Committee for Mental Hygiene: "It seems to me that psychiatry still has a very great contribution to make to preventive medicine in the field of a better understanding of the causation of some of the recognized mental diseases which, at the present time, fill a large proportion of our mental hospitals. . . . A great number of research workers concentrating with all modern methods upon the study of a large group of psychoses whose etiology is at the present time unknown may, in the next quarter of a century, bring to medicine a better understanding of the essential factors underlying thousands of mental cases, which

would enable medicine to reach intelligently a large percentage of cases today occupying hospital beds."

While our state has been for years engaged in providing hospital facilities and medical treatment for its accumulating thousands whose wrecked minds have made them, in most instances, dependent wards, and whose misfortunes have brought mental suffering and often privation to many thousands more, little has been attempted by the Commonwealth, or by our profession, until recently, in a systematic effort to stem the tide of mental disease and defect. Conforming with efforts to prevent the increase of mental disorders, a sterilization law for eugenic purposes was passed in 1924 by Virginia, under the provision of which 643 feeble-minded, epileptic and insane patients in the state institutions have been sexually sterilized during the past five years, 388 having been thus treated the past year. The hospital superintendents have written in their annual reports and some elsewhere, very favorably, on this subject. It is a means of prevention worthy of the profession's further attention. As a matter of fact, the prevention of mental disease did not begin to be emphasized till fifteen or twenty years ago. If as much intelligent effort had been given to the prevention of mental disease and its consequent terrible results throughout the state, almost every family being affected, as has been given very satisfactorily in the prevention of physical disease, we would not today be confronted in Virginia with such problems as the following fact indicate:

On the first of July this year, there were present in the five state institutions for the mentally ill, the feeble-minded and the epileptic, a total of 7,621 patients and 1,863 more were on visit home and liable to return at any time. The state, therefore, had under its supervision 9,484 mental patients—being nearly five hundred in excess of the number one year previously. In the private sanatoria there are about 300 mentally sick and psychoneurotic patients. In the year's time 2,194 cases, 1,904 of whom were first admission cases, were added to the state hospital population. Every hospital in the state is now taxed beyond its capacity. The cost of operating these institutions is likewise of public interest. The legislature last winter appropriated for the current year the sum of \$1,363,484 for the main-

tenance of the institutions, and \$664,935 for permanent improvements, including additional buildings, especially for the feeble-minded, a class for which the state has not done its full duty. Virginia does not care for mental cases in county or other local institutions, and to its credit none are permitted to be kept in jail except temporarily.

Relative to the great increase in the number of patients in the hospitals, there are several reasons, namely: The new concept that insanity is a disease and more or less amenable to treatment has become more and more accepted by the public. Many cases now diagnosed by physicians as mental were formerly unrecognized as such. Through ignorance of the nature of such ailments and prejudice against the old "asylum," many were kept at home or went at large. Formerly many mental cases were, on account of lack of hospital provision, certainly in Virginia, kept in the jails or the old county and city poorhouses and died there. I recall that one year there were four or five hundred such cases among the negroes. Since the opening a few years ago of our state colonies for the epileptics and feeble-minded, the total state institution population has on that account been materially augmented. From the fact that general hospitals have multiplied and the number of patients going to them has tremendously increased does not warrant the belief that physical diseases have proportionately increased. So it is to some extent true in respect to mental disease and defect. There is, however, no doubt that there has been increase in mental and nervous disorders. The *Mental Hygiene Bulletin* for February, 1930, published from a reliable source statistical analysis of data gathered in New York and in Massachusetts, "reveals the startling fact that the chance of a young person fifteen years old being placed in a hospital for the insane during his lifetime is about one in twenty, while the chance of developing an incapacitating mental disorder whether sent to a hospital for insanity or not is probably at least as high as one in ten. To the extent that insanity is traceable to maladjustments due to psychological experiences it would appear that modern civilization is a cause, to a very large extent, of serious psychological maladjustments on the part of mankind." The data for Virginia would probably be less startling than the above.

It has been reliably stated that more than half a million men, women and children in this country pass through our courts and into our jails, prisons, and correctional institutions every year and that extensive surveys and studies have shown that many delinquents and criminals are mentally disordered or defective. Consequently, definite recognition has been given to the mental aspect of crime. As a result, the mental condition of the juvenile delinquent, as well as of the adult offender, has come to have an important place in the program of correction in most states. In confirmation of this general principle, we have in Virginia the experience of the mental hygiene board and the psychiatrist at the State Penitentiary. With opportunity for more extensive studies, most valuable additional information would doubtless be revealed.

In spite of the foregoing array of figures, mental hygienists declare that it is unquestionably true, though it has not been realized to its full extent, that there still exist in the community considerable unrecognized mental disturbance and mental suffering to which attention should be directed and relief given. These include many borderline cases, psychoneurotics, the emotionally unstable, deteriorated epileptics, individuals having marked personality disorders; to say nothing of the thousands of feeble-minded, including many who are attempting unsuccessfully to make the grades in the public schools, for whom, however, no adequate special provision has been made in Virginia for their appropriate training to fit them for life's work. Do not these facts accentuate the need of a comprehensive program for prevention, for mental hygiene, in which the backing of the general profession is necessary?

In order that a closer relationship between general medicine, psychiatry and mental hygiene be brought about there are certain requirements and conditions which must be met, and in the new awakening the medical profession in Virginia will not, I believe, be slow in catching the spirit of the times, as evidenced in some other sections of the country. To meet these conditions one looks first to the medical colleges and then also to the training schools for nurses and social workers. The expansion of psychiatry and mental hygiene has been such that there is a shortage of personal service in these special fields, and progress is proportionately hampered. The *Boston Medical*

and *Surgical Journal*, October 6, 1927, stated in an editorial that in all probability the medical profession is more familiar with other forms of public health work than work with mental diseases and it is becoming more important that doctors should study the problems of psychiatry and render all possible assistance in bringing to bear intelligent study of all who show indications of abnormal mental traits. The *Journal* also emphasized the wisdom of medical examining boards requiring a demonstration of some knowledge of psychiatry by those who seek to qualify as practitioners of medicine. I concur in this view.

A closer association between the medical schools and the state hospitals, so as to provide more clinical teaching of psychiatry to medical students, would be of inestimable advantage. A like affiliation between nurses' schools and state hospitals would also be a forward step of great importance in mental hygiene. A well-equipped mental hospital furnishes students an excellent opportunity for obtaining practical knowledge of the various types of mental diseases. It also furnishes a nurse in training an unusual opportunity to qualify herself to be of better service in private as well as public nursing, and especially to do her part efficiently with the family physician in the mental hygiene fields.* Both the Medical Department of the University and the Medical College of Virginia have initiated action that will doubtless accomplish much in the advancement of psychiatry and mental hygiene in our state.

On account of the abundance and variety of both psychiatric and somatic material, state institutions constitute most excellent clinics. They should consequently be the centers of clinical mental medicine for the benefit of physicians in their respective territories. Demonstration psychiatric mental hygiene clinics, at State Hospitals, at meetings of medical societies, and with other medical groups, such as have been held in Virginia in the past year, will prove of real value to the profession. They will doubtless be made a very important factor in the Clinical Education Department of the Medical Society of Virginia. Through the joint efforts of the mental hygiene division of the State Department of Public Welfare and the Western State Hos-

*In an address on Mental Hygiene in Nursing, before the annual convention of Trained Nurses, May, 1930.

pital, Staunton, such clinics were held in May, 1929, at the meeting of the Albemarle County Society, held at the University of Virginia. Such clinics should always be attended and looked upon with the same scientific attitude and common sense in which any other medical or surgical clinic is viewed and never, which is sometimes done by the thoughtless, as if it were a sort of vaudeville performance given to amuse. That clinical medicine is the first step in the prevention of disease is a view warmly supported by Sir Arthur Newsholme, who says, "It is largely through the study of disease and its treatment that knowledge of prevention has come; and furthermore, treatment of individual illness must continue to be the chief means of prevention." This is as true in respect to mental as it is to general medical and surgical clinics. While the medical schools and the state hospitals and psychiatric clinics open up opportunities for the acquirement of psychiatric knowledge, the psychiatrist could render exceptionally valuable service to the general medical profession by reading more clinical papers at medical meetings or writing more articles for the medical press, describing in not too technical terms, however, the causes, the symptoms, the treatment—dealing particularly with early manifestations of mental diseases.

Many neuropsychiatric patients who have sufficient means, or for personal reasons seek the professional advice of individual psychiatrists and neurologists rather than a public supported clinic or hospital, ever so well conducted. Therefore, thoroughly qualified psychiatrists and neurologists in private practice or affiliated with private institutions have a rare opportunity of rendering valuable service in the field of mental hygiene. Some of the most influential men and women in the movement in this country are such psychiatrists. As the value of mental hygiene becomes better understood and appreciated, the larger will be the field of usefulness of the qualified private physician-psychiatrist who is also a safeguard against the charlatan who through his unwarranted pretensions preys upon the credulous to their ultimate hurt, physically, mentally, and financially. The private neuropsychiatrists of this state are giving their cordial support to the plans and efforts of the State Department of Public Welfare through its Division of Mental Hygiene.

Neither a psychiatric clinic nor a mental hospital can be a complete success without psychiatric social service. The purpose of such service is to procure social material essential to accurate knowledge and diagnosis of cases; and to aid those patients who have returned home from the hospital in making adjustments to family and community life. So in this service the social worker, the general practitioner and the hospital physician work together for the rehabilitation of the mental patient. It is a fair illustration of the inter-dependency between the psychiatrist and the community doctor.

Less than ten years ago it seemed that "all the world had discovered children." Certain Foundations and Funds have launched programs for social and psychiatric work with children. In the application of mental hygiene it is thought to be of paramount importance that great emphasis be placed on the child. The pre-school child, the school-age child, and the adolescent youth furnish the best opportunity for effective mental hygiene work. Many of the school systems throughout the country have made provision for psychiatric examinations of problem children or those having a definite maladjustment of personality, and in some states it is required by law that all school children three years or more retarded shall be examined by a psychiatrist, and of course, appropriate treatment given. It is with children that the general practitioner finds his field of special usefulness in that upon his keen insight, sound judgment, and wise direction the child's emotional and mental life as well as his physical health depend chiefly for proper development. If the child's early environmental disadvantages, his harmful emotional trends and habit disorders go uncorrected or uncontrolled, and his physical welfare neglected, either mental disorders or criminal behavior, or both, are likely to occur later in life. The good results of mental hygiene work with children and youths will be witnessed in the main when they grow up and have to meet the responsibilities and overcome the temptations incident to human experience. The general practitioners, and particularly the child specialist, has, therefore, an opportunity of becoming a well qualified and most useful mental hygienist.

A special type of clinic has been developed with gratifying rapidity—the Child Guidance

Clinic—which is believed to be an important factor in mental hygiene, and in preventing, in many instances, nervous invalidism, various psychoses and development of delinquency or criminality of one sort or another. As a part of the service of the State Bureau of Mental Hygiene, a central clinic of this character, located in Richmond, and three mobile clinics in Roanoke, Danville and Norfolk, in cooperation with the respective localities, have been in operation a year or longer. Within the past year 767 patients, most of whom were children, have been studied and diagnosed and have had recommended treatment outlined by the clinic staff. The cases embodied a great variety of problems such as those of personality, habit, behavior, educational, mental abnormality, sex disturbances and others. Through the courtesy of the Medical College of Virginia, physical ailments of our patients at the central clinic are treated at its out-patient department. With the exception of the cases committed to the Department of Public Welfare and referred to the mental clinic, all referrals have been through, or approved by regular physicians. In connection with each local clinic an advisory committee, of which a resident physician is chairman, and the city health physician a member, renders inestimable service. I take this occasion to thank the local profession for assistance and courtesies to our mobile clinic staff.

Our psychologists have made surveys of two of the larger orphanages in the state, studying in this way nearly five hundred children. One of these programs was undertaken in cooperation with the local pediatric association which assumed responsibility for the physical side of the studies. These investigations will doubtless be helpful to both the children and the institutions.

A number of patients in rural sections have been accepted for study by these clinics. There is as much need for mental hygiene services in such sections as in the cities. There are several ways by which this service may be more effectively rendered as soon as sufficient trained personnel is available. The county medical societies, the county health and welfare organizations, and the school system might coordinate their efforts and work in the closest possible way with the State Bureau of Mental Hygiene in such efforts.

The Bureau of Mental Hygiene operates and

fosters psychiatric clinics both for children and adults, particularly the former through the adolescent age, and renders some advisory service without full clinical examination in a considerable number of instances, involving mental or behavior problems. It also endeavors to furnish through various agencies, especially medical organizations and qualified individuals, information and approved literature relative to mental health principles, and the prophylaxis of mental disease and the prevention and correction of conduct disorders, particularly in children. The activities of the Bureau during the past year embrace articles published principally in the *VIRGINIA MEDICAL MONTHLY*, addresses or papers before organizations of physicians, a club of university women, body of medical students, trained nurses' state convention, groups of social welfare workers, and various other civic groups, by the members of the clinic staff and some of the members of the mental hygiene advisory committee selected by the Bureau, and by the director of the Bureau. Several radio talks also were made. The personnel of the Bureau consists of a director, who is a psychiatrist, and a clinic staff consisting of a psychiatrist, a pediatrician, two psychologists, and two psychiatric social workers, all of whom are highly trained in their respective fields.

While for many years Virginia has had statutory provision for the voluntary commitment to the mental hospitals, it would be of special value if these institutions and the Colony could receive more cases for observation, study and definite diagnosis. This need has been frequently observed in the work of the State Mental Clinic. In some states special and separate provision has been made at a state hospital for children suffering from certain behavior disorders indicating a psychotic trend or actual mental disease.

Small psychiatric wards in general hospitals are commended by competent observers. The out-patient clinics with adequate psychiatric service where examinations and routine treatments are given constitute, in many instances, means of avoiding commitment to a mental hospital. Such wards and clinics should be parts of every large general hospital. But before this step can be taken or successfully carried out, there is necessity, as already stated, of having more physicians trained for

psychiatric practice and we know it will require time and thought to work out this advancement in our state. As a beginning, therefore, it might be better to concentrate efforts in two or three localities—psychiatric centers, if you please.

Psychopathic hospital units affiliated with the medical schools, designed especially for the reception and treatment for a limited time of every type of mental disorder, especially in the early or acute stages, could be made an important factor in a state psychopathic system, and would constitute a valuable opportunity for medical students in studying mental disorders and doing research work. I have for many years and in several publications advocated some plan of this sort. Upon inquiring of what is being done along this line in other states, I have been informed that in the absence of a unit of this character there had been put into successful operation, in one or more states, a plan which provides that groups of medical students from the state medical school spend several weeks on actual psychiatric service and other hospital work in a state mental hospital. I have always held the opinion that no where can a knowledge of psychiatry be obtained so well as in a large institution for mental patients, having every variety of mental and physical disorder. Most gratifying information has just come, that the Medical College of Virginia and the Central State Hospital at Petersburg have initiated a plan by which groups of senior students will reside in the institution for two weeks and get the full benefit of the psychiatric clinical advantages furnished by that institution. The results should be quite satisfactory.

These ways of knowing more about and combating mental disease go far toward establishing a profitable relation between general physical and mental care and constitute means of extending psychiatric and mental hygiene services to the communities in the state, and in educating the medical profession and the public to regard mental illness as rationally as they regard physical disease. They constitute an effective part of a program for prevention as well as cure.

It should be a cause for much encouragement that the present mental hygiene movement in this state has the official endorsement of the Medical Society of Virginia, as voiced in resolutions at the annual meeting of 1929. Similar resolutions were passed at the recent

annual meeting of the State Society, held in Norfolk. It is also a cause of gratification that the MEDICAL MONTHLY, the organ of the State Society, has rendered valuable service to this movement.

I shall close this paper with a quotation which is applicable to the ends for which you and I are striving. It is from an address by Dr. William L. Russell, of New York, President-elect of the American Psychiatric Association, and an able leader in present mental hygiene activities: "The problems of psychiatry and mental hygiene are complex and often extremely difficult. To deal with them will require the best efforts of many branches of knowledge and practice. They are, however, inextricably linked with problems of medical science and with the tasks that must be performed in practical medicine. In the nature of things it is the medical profession that will be expected to furnish the knowledge, the skill, and the leadership that are required to accomplish the prevention of mental disorders and the conservation and promotion of healthy mentality in individuals and communities."

REMARKS: Dr. George A. Wright, Superintendent of the Southwestern State Hospital, Marion, spoke approvingly of the purposes and plans of the State Bureau of Mental Hygiene and the great service it is already rendering, and asked Dr. Drewry to give some information as to how the physicians could best utilize its Clinic and other services.

Dr. J. C. Motley, President, stated that the State Bureau of Mental Hygiene could depend upon the support and cooperation of the Southwestern Medical Society in promoting mental hygiene, as outlined by Dr. Drewry in his address

NOTE: Physicians and others desiring the services of the Bureau of Mental Hygiene or to refer cases to the Clinic for advice or study should communicate with the Director of the Bureau, 1101 Bank Street (temporary offices), opposite the State Office Building, Richmond. Phone 3-4476.

CROSSED CYLINDERS IN REFRACTION.*

By FRANK P. SMART, M. D., Norfolk, Va.

At the outset let me disclaim originality for any idea in this paper or in the demonstration following. My whole acquaintance with the subject is from a few articles I have read in textbooks and journals, and from a lantern-slide demonstration given in 1922 by Dr. Crisp, of Denver, at the Washington meeting of the International Congress of Ophthalmology. I was so deeply impressed that I started using the cross cylinder at once, and after eight

*Read before the Eleventh Annual Meeting of the Virginia Society of Otolaryngology and Ophthalmology, at Roanoke, Va., May 3, 1930.

years I must say that, from a practical standpoint, it has been worth more to me than all the rest of the Congress. I do not believe the use of the cross cylinder is very general, and for that reason I am reproducing as nearly as I can from memory the demonstration that Dr. Crisp gave eight years ago.

The cross cylinder was introduced as an aid to refraction about forty-five years ago by Dr. Edward Jackson, of Denver. It is merely a trial lens having a plus cylinder ground on one side and a minus cylinder of the same strength on the other side; the axes of these cylinders are at right angles to each other, and the handle is midway between the two axes, i. e., at an angle of 45 degrees to each axis. The handle is small and round so that the lens may be readily rotated around this diameter, the effect being that the plus and minus axes are made to swap places easily, rapidly and accurately. The cross cylinder most generally useful has a strength of a plus and minus 0.25 D., and, instead of being ground as indicated, it is more easily and accurately ground as a plus 0.25 Sph. combined with a minus 0.50 Cyl., axis 45 degrees to the handle.

To quote from Jackson's article in the *American Journal of Ophthalmology* of last November, "Such a lens placed before the eye separates cylindric effects from spheric refraction, and allows the measurement of each before the other has been fully worked out." Further on, he says, "The convex and concave cylinders in the trial case change the plus or minus spheric effect, and confuse it with the changes sought by change of cylinder. The cross cylinder, whatever way it may be turned, leaves the general plus and minus before the pupil exactly the same. The change of vision it produces is entirely by change in cylinder."

I can assimilate such statements better by trying to visualize the pencil of light in the eye with its focus or linear foci modified by the passage of the light through such a lens. Let us suppose that the eye has a simple hyperopic astigmatism of 0.50 D. and it has been properly corrected by the cylinder of that strength, at the proper axis, say 90 degrees. Now place the cross cylinder in front of the correction, and you have produced an artificial mixed astigmatism, i. e., instead of having a point of light accurately focused on a corresponding point of the retina, it is focused as two lines at right angles to each other, one

anterior to the retina and the other about the same distance behind the retina, the retinal image being a diffusion circle, and the patient does not see so well. By rotating the cross cylinder the two linear foci have been made to swap places, but their distances from the retina have remained the same, and what hits the retina is a circle in all respects like the former one, so that reversing the axes has not changed the visual acuity at all. Although the cross cylinder made the vision poorer, the fact that the vision remained the same no matter which side of the cross cylinder was presented shows that the correct cylinder had been chosen and placed before the eye.

Now assume another case in which the spherical correction has been approximated, but you have a plus cylinder in front of the eye that is too weak. The rays from a point of light are brought to two linear foci, the relation of these foci to the retina being dependent on the spherical correction. If the plus axis of the cross cylinder be made to coincide with the weak plus cylinder before the eye, the strength of the cylinder is augmented, the posterior linear focus is brought forward and the anterior linear focus is pushed backward. The vision may remain unchanged or improved or made worse by this change. If you now reverse the axis of the cross cylinder by rotating it, the linear foci are pushed further apart and lengthened with great increase of distortion, which would indicate that the cylinder in the trial frame is too weak. It should be strengthened and the test applied again until reversing the cross cylinder does not affect the visual acuity. We have all had numberless cases where we were attempting to improve on our retinoscopic findings by making the usual six changes, using the plus and minus spheres and cylinders of 0.25 D strength, and the patient was unable to choose between the —.25 Sph. and the —0.25 Cyl. In such cases the above test is very quick and positive, leaving no doubt in the mind as to strengths even so low as 0.12 D. The question is almost never whether the cross cylinder improves vision, but always which side of the cross cylinder seems the better.

Thorington and Duke-Elder, in their books on practical refraction, and the *American Encyclopedia of Ophthalmology*, all devote some space to the use of Jackson cross cylinders, but the only use they mention is in the determina-

tion of the amount of astigmatism. It was used in this manner for fifteen or more years before it was discovered, by whom I do not know, that it could be used in a different manner to determine the axis of astigmatism with an ease, speed and certainty never before approximated. To illustrate its sensitiveness in this respect, I refracted a fellow ophthalmologist who required a -0.37 cylinder at a certain axis. I could rotate the cylinder almost 15 degrees in either direction from the proper axis without producing appreciable distortion in the 20/10 line of letters but with the cross cylinder test he could detect a variation of less than two degrees in either direction even though his visual acuity was reduced to 20/20 by the cross cylinder during the test.

The essential difference in the technique of the two uses of the cross cylinder is this: in testing for the amount of astigmatism, one axis of the cross cylinder is always parallel to the axis of the trial cylinder, hence the handle of the cross cylinder is always at an angle of forty-five degrees to the axis of the trial cylinder. In testing for the axis of astigmatism, exactly the reverse is true, the handle of the cross cylinder is always parallel to the axis of the trial cylinder, and the axes of the cross cylinder are always at 45 degrees to the axis of the trial cylinder. Holding the handle in this position the sides are reversed, and if the acuity of vision is not affected by this reversal, then the axis of the correcting cylinder is the proper axis. If there is a difference in the vision on reversal, hold the cross cylinder in the position of best vision and note the position of the plus and of the minus axis of the cross cylinder; then turn the axis of the correcting cylinder a few degrees toward the position of the axis of the cross cylinder bearing the same sign, and repeat the test until reversal has no effect on vision.

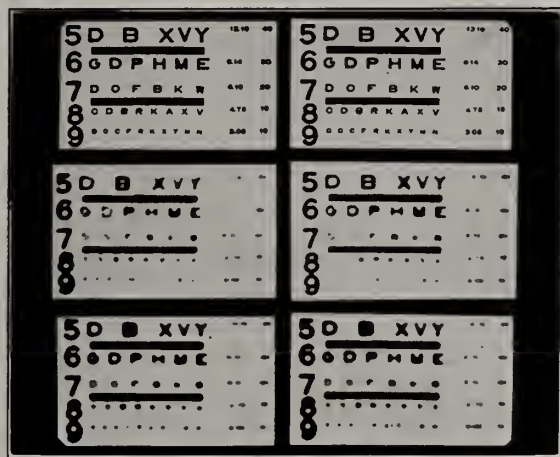
I will not attempt to explain this test along the lines of theoretical optics but rather by experimental optics, harking back to the old master, Edward Jackson, for the experiment. In the article already quoted from, he says, in part: "Take two cylinders and place them in two grooves in a trial frame—any two will do, but a minus 2. and a plus 2. serve very well—and with them place a plus 3. Sph. to focus the light on a card. The -2.00 cyl. can represent hyperopic astigmatism, and plus 2.00 cyl. the correcting glass. When the axes

are parallel there is full correction; when at right angles they cause astigmatism of 4.00 D. Placed at meridians oblique with each other they cause astigmatism varying from 0 to 4. D. and the direction of their meridians can be made to pass through the whole range of 180 degrees." (It is important to note that the astigmatism produced by oblique contra-generic cylinders never has the same axis as either of the cylinders producing it). "Take a cross cylinder and hold it with its meridians oblique to those of the focal lines. Each turning of the cross cylinder will change the direction of the focal lines and change their length. When the cross cylinder handle is just in the direction of a focal line, the turning of the cylinder throws the focal line equally in either direction, and shortens it one way as much as the other." So much for the experiment.

To come back to the eyes, when a correcting cylinder has been placed in an approximately, but not exactly correct axis, you have a condition like the oblique axes in Jackson's experiment, with a resultant residual astigmatism neither linear focus of which is parallel to the axis of the correcting cylinder. Use the two sides of a cross cylinder alternately with the handle parallel to the axis of the correcting cylinder; the handle will then be oblique to the linear foci of the resultant residual astigmatism, and, consequently, the distortion will be greater on one side than on the other. Move the axis of the correcting cylinder toward the position occupied by axis of the same sign on the cross cylinder at the time he saw best, and repeat the test until turning the cross cylinder over does not change the image at all. This lack of change indicates that the handle of the cross cylinder is in line with a meridian of the resultant residual astigmatism, but it is also held in line with the axis of the correcting lens, consequently the correcting cylinder is in line with the resulting astigmatism. This occurs only when the correcting lens is exactly in line with astigmatism of the eye, hence it is in exactly the proper axis.

This account of the "how and why" may not be very lucid, so, to make things a little plainer, I have made some illustrations by focusing a camera carefully on a test chart, then placing a -0.37 cylinder at axis 40 in front of the lens, making the refraction one of simple hyperopic astigmatism.

In the first picture this astigmatism has been accurately neutralized by the addition of a $+0.37$ cax 40, and in the one beside it the correcting cylinder was placed at axis 45, thus



introducing an error in the axis of the correcting lens of 5 degrees. A comparison of the two results will show how difficult it would be for a patient under such circumstances to say which axis is the better. If we wish to be as accurate as possible, it is our job to find out which is right, for obviously they cannot both be accurate.

The 45 degree axis being more often found correct than the 40 degree axis, we will leave the correcting lens at 45, place the cross cylinder in front of it with the handle at the 45 degree mark, and compare the results gotten when one and then the other face of the cross cylinder is nearest the correcting lens, always keeping the handle at 45.

The second picture in each column shows the result, a casual glance being sufficient to show that there is a difference between the two, especially if you pay attention to the two larger lines of letters. This means that axis 45 is not the correct axis, and that the correct axis is in the direction of the $+$ axis of the cross cylinder at the time that the clearer image was obtained. It does not tell us how far in that direction to move the axis of the correcting cylinder.

If we move it 10 degrees down, i. e., to axis 35, we will get the reverse of the above result, but when we get the astigmatism accurately neutralized at axis 40, the picture through the cross cylinder is not altered by turning the cross cylinder over, as evidenced

by the two lowest pictures which were taken under such conditions.

810 *Medical Arts Building.*

APPENDICITIS IN THE MIDDLE-AGED.*

By FRANK S. JOHNS, M. D., Richmond, Va.

Appendicitis in middle-age is meagerly described in the literature as "a rare occurrence." An unfortunate and erroneous impression has thus been established; but commands disproof on recognition of how many persons after forty have a diseased appendix. This prevailing inaccuracy of the authorities is in no small way responsible for late diagnoses and consequent high surgical mortality.

Acute appendicitis is most frequent before thirty. After this age the organ begins to atrophy, but the danger curve of its pathology accordingly rises. Beekman, Smith, and Everingham state that between the ages of ten and fifty, mortality is 4.7 per cent, but that before ten and after fifty mortality is 23 per cent. In their series of twenty-four middle-aged cases the mortality was 33 per cent. The Metropolitan Life Insurance Company shows the death rate for all types of appendicitis beyond forty-five to be 21 per 100,000. Who will dispute the gravity of such figures?

We are all agreed on the infective nature of acute appendicitis at every age. But there is difference of opinion as to its causes. It is safe to conclude that the usual sources of this infection lie within the lumen. In youth the appendix is rich in lymphoid tissue, which is practically absent in advanced age. For older patients the theory of hematogenous infection may be favored, but no doubt a combination of these two factors plays the major role in the origin of this infection.

The pathology of acute appendicitis in the early decades of life shows the infection beginning in the mucosa and continuing to the surface of the organ, with small abscesses in different areas. In older people the appendix is frequently found to be gangrenous throughout. A number of these older patients develop a late sepsis, resulting probably from infection about the iliac and femoral veins, with extension to the branches of the portal vein. This causes a distressing jaundice. McCallum reports a case in which the branches of the veins leading from an abscess around the appendix were found filled with a purulent greenish

*Read at the sixtieth annual meeting of the Medical Society of Virginia, at Charlottesville, Va., October 22-24, 1929.

white material. The main trunk of the vein was dilated and thickened and filled with the same material extending to lungs, spleen and liver. This typical suppurative pylephlebitis is the most satisfactory explanation of the mortality occurring in this type of aged patients.

The usual case of acute appendicitis before middle-age carries a definite syndrome and is readily diagnosed. We have the sudden onset, accompanied by nausea and vomiting; characteristic abdominal distress; rigidity of the right side of abdomen; elevation of pulse and temperature; high leucocyte count; and a normal urinalysis. This classical picture should be promptly recognized and, followed by early operation, will have a relatively low mortality. However, in passing, it may be well to emphasize my conviction that despite the familiarity of surgeons and laymen with this emergency, *every* case of acute appendicitis must be classed as "serious" and taxes the utmost of our surgical resources.

In the patient after forty, the picture changes. Diagnosis is generally late, because of *gradual* onset and delay in calling the family physician. There is often a history of slight gastric disturbance, indigestion or dyspepsia, resulting in diarrhea, for which the patient has prescribed for himself the usual ill-timed purgatives. His abdominal discomfort has come on insidiously and, being accompanied by purgation, the pain so far is believed to be from the purgative. Frequently, the physician is not summoned until the second or third day after a spell of severe abdominal pain. This delay too often spells disaster; meaning perforation and peritonitis, already begun.

The patient is now moved to a hospital. And at this stage his condition too often presents the misleading picture of one only moderately sick. It has been well called "the dangerous stage of calm." There is but moderate distention; gradual increase in pulse-rate, slightly elevated temperature and white count around 15,000. The urinary report on such aged cases of acute appendicitis is interesting. In my experience practically all of these cases have hyaline and granular casts with many pus and red blood cells.

Operating on patients over forty years of age with acute appendicitis is a treacherous procedure and one of great concern to the surgeon. As soon as the incision is begun one realizes the softness of the tissues. On opening the peritoneal cavity, the vascular picture

also shows a definite change. The veins are distended and tortuous. The appendix is gangrenous throughout—not, as in younger cases, showing gangrene spottily, and only in certain areas. Often the gangrene is extended into the mesentery, which further complicates the operation. Attempts to suture the mesentery will repeatedly break through and require extreme efforts to control hemorrhage and to close over the appendix stump.

Post-operative treatment consists of fluids, given preferably by hypodermoclysis and the Murphy drip; also when possible by mouth. But an attempt to feed such cases too early is a mistake and may bring on troublesome nausea and vomiting.

The operative course of patients who have lost the resilient snap of youth yields no optimistic prognosis. The condition seems generally fair for the first forty-eight hours, but shortly after this the scale too often turns. There appears a gradual increase in pulse-rate, slight rise of temperature and more pronounced abdominal distention. And in spite of all our efforts, a disheartening proportion of these cases terminate fatally between the fifth and eighth days after operation. In such patients the normal body resistance is lowered and cardiovascular and renal diseases contribute serious complications. But the extension of gangrene and phlebitis with their resulting intestinal pathology are directly responsible for the high death-rate.

The Touro Infirmary reports eighty-eight cases of acute appendicitis in patients beyond forty. Of these, nineteen appendices were ruptured and twenty-two were gangrenous. The death-rate of the series was over 29 per cent. Fifteen of the twenty-two gangrenous cases died, a death-rate of 68 per cent. Nine of the ruptured cases died, a mortality of 47 per cent.

One must face the cold facts of advancing age. Realizing the grave odds against this type of patient, the utmost measures of precaution must be weighed in the hazardous balance. Once a diagnosis has been made, such cases of acute appendicitis are too urgent to delay even for more thorough study. The operation must proceed immediately. Above all, every patient of this type must be treated as a desperate case during every stage of his illness.

The ever-present danger of cardiovascular

changes demands a most careful anesthetic. Nearly all of these cases can and should be operated under local anesthesia with the aid of ethylene. Many of them can be done entirely under local anesthesia. A profound anesthetic given an acute appendix case in the aged is the first misstep to be avoided. Where general anesthesia is not used, there is less danger of respiratory complications, and nausea and vomiting are reduced to a minimum, which is most important in this type of patient.

The hope of lowering this mortality in the middle-aged and older appendix case does not rest entirely with the treatment of the acute condition. If real progress is to be made, our therapy must date back to the verdict of a thorough examination of each suspicious case during an earlier "chronic" stage. Many acute cases have had previous routine examinations for dyspepsia or indigestion, but have been dismissed without relief or diagnosis. The history of this type of patient needs careful attention. If there is any question of a chronic appendicitis, radiograph should always be made by a skilled radiologist. If the diagnosis can be made in the chronic stage, the internist is given an opportunity to condition the patient for operation. This will greatly advance his chances for recovery and, when such a course is carefully and routinely observed, the deplorably high death-rate for this disease will be materially lowered.

Johnston-Willis Hospital.

DISCUSSION.

DR. J. MORRISON HUTCHESON, Richmond: My own experience is in accord with the ideas expressed in Dr. John's paper. I feel that acute appendicitis in a mature patient is apt to pursue a clinical course somewhat different from that seen in youth; the onset is more insidious, the symptoms and physical signs less definite, the progress toward gangrene and perforation more rapid; also, the response to operative treatment is less satisfactory. Post-operative complications are more apt to occur, and the mortality is higher. These, I think, are important clinical facts that all of us might bear in mind with profit.

The explanation of the different behavior of acute appendicitis in the elderly, if such a difference exists, unquestionably lies in some phase of the aging process, or what Dr. Warthin calls in his interesting book, "the major involution." This process begins soon after maturity—much sooner, I think, than is generally appreciated; it is often well under way at forty and sometimes before. Perhaps senile changes in the abdominal vessels are mainly responsible for the poor resistance to acute infection in the appendix; but it seems probable that there are other factors, both local and general, and that these factors in our present state of knowledge are

hard to identify. Death in this type of patient is not often due to heart or kidney failure, and I have felt that treatment with powerful cardiac drugs and diuretics in the patient with abdominal distention and rapid pulse is wrong and much more apt to be harmful than helpful.

DR. D. D. TALLEY, JR., Richmond: Something has been said in this paper about the value of X-ray examination in the diagnosis of appendiceal pathology. Dr. Johns stressed the fact that, if we are to forestall these cases of acute appendicitis in middle-aged and older people, we should try to make a diagnosis in the cases giving indefinite, chronic gastro-intestinal symptoms, before the acute attack comes on. Of course, the X-ray examination is not aimed entirely at the appendix. The whole gastro-intestinal tract should be studied in all cases; and particularly in this period of life where we are getting into the age of carcinoma and gall-bladder disease, our X-ray should be very comprehensive. In many cases it should include the Graham test for gall-bladder disease. In middle-aged patients, the Graham test is becoming more and more of a routine along with the gastro-intestinal study.

Some men have been very pessimistic and others too optimistic about the determination of appendiceal disease by X-ray examination. I believe nearly everyone who has had the opportunity of making complete gastro-intestinal X-ray studies over a period of years feels that the value of roentgen observation of the appendix is undoubtedly rather great. The roentgenologist has a considerable responsibility here. Though films are made for confirmation the most valuable conclusions are drawn from the study of the patient under the fluoroscopic screen. We are able to see the shadow of the cecum and most often that of the barium filled appendix under the screen and by means of fluoroscopic palpation may determine many points about fixation, localized tenderness, etc. The observer, therefore, has to combine a physical examination with an X-ray examination, and should be conservative in his conclusions. I think that we should not attempt, by means of the X-ray, to *exclude* appendiceal pathology as we would exclude fracture of a long bone. In some cases the information will be incomplete, and in such cases the roentgenologist should not attempt to give a positive diagnosis, but should be satisfied with giving as much information as he can; in many cases, however, the X-ray will show the exact pathology and in the vast majority it should give us information that is extremely useful in handling that particular patient in regard to the appendix.

OPERATIVE OBSTETRIC DELIVERY.*

By C. J. ANDREWS, M. D., F. A. C. S., Norfolk, Va.

A structure cannot be considered safe unless all its component parts are sound. Successful obstetrics cannot always be accomplished by methods of delivery alone. The best results from delivery are dependent in many cases on successful prenatal care. Pelvic measurements should be made in all cases during pregnancy. Only a fraction of 1 per cent will be found to have an absolute contraction. However, these do occur, and when not recognized may result in most serious consequences. When this con-

*Read before the Southampton County Medical Society, May 2, 1930.

dition is found, a section at full term, or when labor begins, solves the problem.

About 7 per cent have relatively contracted pelves. It is in this class that most of the mechanical difficulties occur. It is highly desirable that we know the measurements in this class also, as we then have opportunity of warning the patient or her family that the case will require special care, and may require operative delivery. Here we are particularly careful not to make vaginal examinations in the first stage of labor except in cases where needed information cannot be obtained otherwise, and then only after most careful preparation. Disproportion between foetal head and pelvis may occur in normal pelves. Here other findings warn us of this danger—very large measurements of the uterus, an overriding head in the latter weeks of pregnancy, or possibly a history of difficult labor.

It is evident that the best method of delivery is not known in many cases until the head has actually entered the pelvis, or failed to do so after suitable trial. Fortunately in most cases, in fact, all but a small percentage, if suitable time is allowed and proper management applied, the head will descend and will be delivered spontaneously, or if arrested in the pelvis due to posterior position or other reason, suitable artificial delivery can safely be accomplished.

Posterior position is most often the cause of arrest at mid-pelvis. Almost every obstetrician has a favorite way of managing posterior position. We know that most of these will rotate if the patient can be suitably relieved by sedatives, as morphia, magnesium sulphate, rectal ether, etc., until full dilatation, and the head allowed to reach the pelvic floor. When this much progress is made, if it does not rotate, this can be accomplished by manual rotation followed by forceps, or by the Scanzoni procedure, or Kielland forceps. I like the latter very much and usually use them. Occasionally when the head has not advanced quite so far, and the sagittal suture remains transverse, the Barton forceps is most satisfactory. Perhaps the most important factors in the forceps operation is catheterization of the bladder, complete dilatation of the cervix, and the correct cephalic application of the forceps. If the vagina is tight and perineum strong, I iron it partly, using green soap freely, and

then do an episiotomy. In a few cases it is evident that the structures are soft and will not require that. The position of the patient is important. For mid-forceps I have the legs held by assistants, as advised by Potter. For low forceps the buttocks of the patient are placed on a douche pan with the feet on the table. The stirrups or shoulder straps seem to increase tension on the perineum, and consequently increase the injury. My records show 74 per cent low forceps deliveries in primiparae. It might have been about 4 or 5 per cent. In other words about 70 per cent are optional and depend upon personal equation. Unless all requirements for a successful surgical procedure are at hand, spontaneous delivery of this 70 per cent will continue to give best results.

If the head fails to enter the pelvis after suitable trial, Cesarean section is in order. Section for this cause will not be required in much more than 1 per cent of cases, if that much. The low cervical abdominal section is most satisfactory for these cases. Its advantages are numerous. The convalescence is much more satisfactory. If the case has not been allowed to go too long the puerperium very closely resembles that after spontaneous delivery. Adhesions with their train of unpleasant consequences are not so liable to occur. The danger of subsequent rupture is reduced. Hemorrhage is much less as the muscle of the uterus has not been injured. The mortality rate is definitely diminished. It can be used with reasonable prospect of safety in many cases in which classical section would be absolutely contraindicated. The danger of classical section in cases which have been even a short time in labor is well known. I have used this method almost exclusively during the past few years. I regret that I have not a complete record of some of the first cases, but I have done about forty by the low cervical method without a single death. One case developed a rather severe infection which I drained through the vagina. I feel sure that this patient would have died if a classical section had been done. Several had wound infections without any serious consequences.

One of my sections was done for placenta centralis; this was a classical section and was entirely satisfactory. I have not been using section for marginal placenta previa cases, as

they have been satisfactorily managed by bags, followed by rupturing membranes and low forceps, or version after full dilatation. Toxemia or eclampsia occasionally require section, but never before suitable conservative treatment has been used. I have used the low Cesarean section for these. The last one of these was done about six weeks ago under spinal anesthesia. This patient was a primipara, and not young, and had been treated for high blood pressure before pregnancy. She was within two weeks of term, and in spite of all treatment, symptoms were threatening and delivery seemed necessary. The cervix was long and hard. Induction of labor, the other alternative, seemed to offer more difficulties to both mother and child. The result was most gratifying.

I do not wish to give the impression that I regard Cesarean section as a safe operation. In fact it is very dangerous, as attested by published and unpublished statistics. In the Norfolk Protestant Hospital during the last five years it has given a mortality rate of 13 per cent. I have recently reported (*Southern Medicine and Surgery*, April, 1930) a detailed account of these deaths. Without having seen and studied all these cases it is impossible to judge from the records only that proper judgment was always used in selecting methods of treatment, or in the technique used. It is evident, however, that suitable prenatal care would probably have prevented the condition for which the section was done in some, and that conservative treatment of the toxemias or eclampsia would have removed the need for Cesarean section in some, or made it safer in others. A previous knowledge of the contracted pelvis would have made the Cesarean section comparatively safe.

It is the belief of many, including myself, that during the past few years too many sections have been done on indications which were not sound. I believe it is equally true that section could and should be used to great advantage in some cases which are now being delivered by difficult forceps or difficult version, which result in serious injury to mother and child.

PROBLEMS IN PROCTOLOGY.*

By WILLIAM W. RIXEY, M. D., Richmond, Va.

Adequate examination and treatment of diseases of the rectum and colon are matters of relatively recent development. We are constantly attaining a greater clarity of understanding on this subject and a much needed diffusion of knowledge has begun. The skill of the roentgenologist and the addition of proctoscopic examinations as a routine procedure in diagnostic studies are demonstrating the prevalence of disease in the terminal bowel. The relationship between disease in this locality and systemic or remote disorders needs much further investigation. The problems of focal and secondary infections are far from being solved, but certainly we can no longer look on ano-recto-colonic diseases as chiefly local. Assuredly some cases of colitis, and probably a number of the inflammatory conditions in the ano-rectal region, are secondary to septic foci elsewhere, namely, infections of the teeth, tonsils, accessory sinuses, gall-bladder and appendix. It is also certain that diseases in the terminal bowel play an important role in many common disorders, such as arthritis, neuritis, lumbago and irritable urinary disturbances.

With the constantly increasing use of the proctoscope, it is perhaps wise to recall that Dr. Landsman, of New York, reporting a case seen in consultation in which the lower bowel was ruptured during proctoscopic examination, has sounded a word of warning. This accident occurs not infrequently in this country, but is very seldom reported. When one recalls how often the ulcerated rectum and colon are examined, and how ulcers, duodenal and typhoid, in the upper intestinal tract may rupture without instrumentation, one wonders why this calamity is not more often seen. To avoid it, we should discard the older instruments that are passed "blind." The obturator should be withdrawn as soon as the instrument has passed the sphincters and the rest of the procedure accomplished under direct vision.

The indications for use of the proctoscope are frequently overlooked, and whether the examination is indicated or not is sometimes difficult to decide. We should remember that if we are to discover pre-cancerous and early cancerous conditions, we must examine the rectal region when symptoms are vague or slight. We

should recall that cancer of the rectum or sigmoid may be associated with hemorrhoids and not end our investigation with the discovery of the innocent ailment below. Cancer in this region comprises about five per cent of all cancer, and something like seventy-five per cent of these are within reach of the gloved finger. It seems a pity in a region so accessible to touch and sight that a new growth should pass the stage of operability before discovery.

In the treatment of hemorrhoidal conditions many problems may be present. The acute congestive type, with an absence of thrombosis, will be benefited by any astringent ointment, and this fact is largely responsible for the success of various proprietary preparations. When tumefaction has become permanent, some means of removal must be considered. As Dr. E. H. Terrell has pointed out many years ago, uncomplicated internal hemorrhoids may be treated by the injection of quinine and urea hydrochloride with uniformly satisfactory results. The immediate reaction to this injection, as shown by Hertzler, of Kansas City, is an exudation of fibrin. The fibrinous deposit in the interstitial tissue prohibits bleeding and minimizes protrusion. It is followed by a stage of submucous fibrosis, and by the contraction of fibrous tissue; the mucous and muscular coats are approximated, the dilated vessels obliterated and the tumefaction caused to disappear.

Internal hemorrhoids that have undergone fibrotic change or polypoid degeneration should be removed by operation. The injection treatment is useless in these conditions, nor should it be used when complications such as fissure, fistula, polyps or cryptitis are present. Infection in the rectum or anal canal, for obvious reasons, is a contra-indication to this method of cure.

In performing the operation of hemorrhoidectomy, the ligature with excision, or some modification thereof, has always appealed to me as the purest of the surgical procedures. Whatever technique is adopted, there are often problems to be met and errors to be avoided. The removal of hemorrhoids is not always a matter of great simplicity; indeed, there are times when a considerable amount of skill is necessary if normal sensation, normal function and satisfactory post-operative appearance are to be obtained.

A properly performed hemorrhoidectomy

should accomplish the removal of the varicose veins, the excessive interstitial tissue, mucous membrane—if redundant,—and the hypertrophied peri-anal skin. The question of how much to do is often a puzzling one. After studying a number of post-operative cases I am convinced that the two most frequent errors, and they are often combined, are removal of too much mucous membrane and removal of too little hypertrophied peri-anal skin. The former invites imperfect sensation with narrowing or stricture of the canal, and the latter results in leaving skin tags which often hypertrophy rapidly following operation and leave the patient with the impression that he has not been entirely cured of his hemorrhoids. Another error that occurs frequently is the passage of sutures into the sphincters. The most annoying sphincter algia with subsequent hypertrophy and contraction of the muscles may follow.

Ano-rectal fistulae comprise about one-fourth of the cases of rectal surgery. It is a surprisingly common condition and the problems involved in the treatment of the various types merit a much more detailed consideration than can be given to them in this brief paper. A fistula is almost invariably a sequel to a peri-anal or peri-rectal abscess, and if we are to minimize the chance of fistula formation we must open ischio-rectal abscesses promptly with an incision adequate to secure free drainage. As a rule the incision should be longer than the broadest part of the abscess and parallel to the sphincter. Incisions radiating from the anus are often not satisfactory because the corrugator cutis ani and sphincter muscles tend to approximate the edges and check drainage. The patient should invariably be warned that his abscess is a potential fistula and should remain under surgical care until the abscess cavity has had ample time to heal completely. Delayed healing usually means that the cavity communicates with the bowel.

The treatment of fistula is essentially surgical. An adequate operation and careful post-operative supervision of the wound are necessary to accomplish a cure. In the incision operation, the main tract, its internal opening and every collateral branch must be laid open. The pyogenic membrane lining the tracts should be removed with scissors, curette or the application of phenol followed by alcohol. The overhanging edges of the wound are cut away freely

to insure good drainage and the incision packed lightly with gauze.

The surgeon or his trained assistant should superintend the post-operative care. This work cannot be safely delegated to students or inexperienced internes. I believe the results following correctly performed operations will be imperfect in nearly fifty per cent of the cases when the post-operative treatment is inadequate or carelessly done. At first the wound should be dressed daily and irrigated with a non-irritating sterile solution. The cleansed wound should be drained and not packed. It is rarely necessary to use packing after the fourth day, and its continued use results in delayed healing with an excess of scar tissue. Bridging must be carefully watched for until the wound has completely built up from the bottom. When bands of granulation tissue grow across the wound, leaving a space below, the foundation for recurrence is at hand. They must be promptly recognized and broken down or cut.

Yeomans listed the chief reasons of non-healing or recurrence as follows: 1. Inadequate operation, with failure to find and open through the internal openings in the bowel; failure to open all of the collateral tracts; poor drainage due to too little tissue cut from outer part of wound.

2. Careless or inexperienced post-operative care, with plugging instead of draining the wound,—unrecognized bridging.

3. Rarely a constitutional disease, as tuberculosis, diabetes or syphilis.

The great variation in pathology found in operating upon fistulae and the amazing extent to which dissection must sometimes be carried may necessitate sound surgical judgment if normal function is to be preserved. The responsibility of protecting the patient from an incontinent rectum should not be lightly assumed by the surgeon. Surgical procedure should be held in abeyance when doubt as to future bowel control exists. The patient is infinitely better off with a fistula than with a loss of control, and secondary or multiple operations are but slight inconveniences as compared to permanent sphincteric impairment. When operative procedure is contemplated in the presence of fibrosis from a previous unsuccessful operation, or when the sphincter must be cut laterally, the two-stage seton operation should be considered, because in this

procedure the cut ends of the muscle have no opportunity for wide separation.

In discussing post-operative pain, it is, I think, no exaggeration to state that the problem of combating severe pain no longer exists for the surgeon skilled in the management of anorectal conditions. The two chief causes of severe pain are tension within the tissues and the contraction of the sphincter muscle upon raw surfaces. The extent of raw surface has little to do with it and the age-old explanation of exposed sensory nerves but little more. It is the irritation of sensory nerves through tension or muscular contraction that does the damage. Following a fistula operation, when good drainage has been obtained and the external sphincter muscle cut, severe pain is almost unknown.

A similar result should follow the operation of hemorrhoidectomy. Tension is avoided by placing sutures carefully, and not too abundantly, and drainage of the anal canal and peri-anal tissues accomplished by an incision in the posterior mid-line. The last procedure is a very important point. I first saw it used several years ago, by Dr. Terrell, and the few occasions on which I have omitted it have convinced me that it adds greatly to post-operative comfort. It may be carried deep enough to divide a number of circular muscle fibers at this point and thus relieve tension. It is well to remember, not only in a hemorrhoidectomy but also in fistula operations, that, due to the arrangement of the fibers of the external sphincter muscle, no danger of incontinence need be entertained when incisions are confined to the posterior mid-line. This statement presupposes that the destructive action of post-operative infection will be eliminated by adequate post-operative care.

Professional Building.

DISCUSSION.

DR. E. H. TERRELL, Richmond: This paper of Dr. Rixey's should be of particular interest, both to the general surgeon and to the practitioner of medicine. To the inexperienced, probably, there are many problems in proctology. If, however, one has a thorough understanding of the anatomy and physiology of the rectum and a knowledge of the etiology and pathology of its various diseases, comparatively few real problems will present themselves.

On account of the limited time allotted me, I shall not be able to take up more than one or two phases of Dr. Rixey's paper. He mentioned some of the improvements in the treatment of hemorrhoids during the last few years. The operation for hemorrhoids is not such a simple thing as it might seem.

It requires the most exact technic to remove hemorrhoids properly; and, as Dr. Rixey correctly said, the mistake most often made is in the removal of too much tissue. Not infrequently, also, what appears to be a complete hemorrhoidectomy may be followed by unsatisfactory results because a low-grade infection associated with the hemorrhoids has been overlooked. This infection most often starts at the bottom of the anal valves and passes down between the muco-cutaneous lining of the anal canal and a thin layer of fascia external to it. Such a condition sets up an irritation and causes spasms and contraction of the anal muscles. If you remove hemorrhoids and do not drain these infected tracts when they exist, your patient will not be completely cured.

Because of improved methods in operating, patients as a rule now suffer very little pain following hemorrhoidectomies and their convalescence has been reduced to approximately one-half the time formerly required. In removing a hemorrhoid, it should be separated from its attachment at its lower part, before a ligature is applied. The reason for this is that the lower part is supplied by sensory nerves and the upper by the sympathetic. If this procedure is followed, there will be much less post-operative pain. If too much tissue is removed, ulceration and constriction will likely follow.

After the hemorrhoids are removed, a shallow incision is made beginning above at the anorectal line and extending down through the skin posteriorly. This will prevent edema and swelling and the formation of skin tags. In other words, it relaxes the parts and allows for drainage, and by doing this it shortens convalescence by about fifty per cent. We keep a patient in bed, following a hemorrhoidectomy, not more than three or four days. He is given solid food the next morning after the operation, and the bowels are allowed to move on the second or third day. The majority of patients operated on properly, when this drainage method is followed, will not require a single hypodermic after the operation.

I wish to take this opportunity of condemning as strongly as I possibly can, the very common practice of giving soap enemas. They are very irritating and often cause a pronounced and aggravated form of proctitis. Equally as good results will be obtained from plain water or soda enemas, without the disagreeable effects which often follow administration of the soap-suds enema.

OBSERVATION IN FIFTY CASES OF FOREIGN BODIES IN AIR AND FOOD PASSAGES.*

By E. G. GILL, M. D., Roanoke, Va.

In presenting these case reports, the problem and its solution will be emphasized. We have had approximately one hundred cases of foreign bodies in the air and food passages exclusive of the pharynx. This report includes the cases where our records are complete.

Age.—Age ranged from eight months to seventy years.

Sojourn.—The sojourn of the foreign bodies ranged from four hours to five years.

Location.—The location was as follows:

Larynx—2; right bronchus—15; esophagus—27; trachea—2; left main bronchus—4.

Nature of accident.—Forty-seven cases gave a definite history of having aspirated or swallowed a foreign body. Three cases did not give a history of foreign body aspiration. One case, a child two years old, had been treated for a cough, pneumonia, and empyema before the X-ray examination revealed a mattress tack in the right main bronchus. A baby age eight months had been treated for "colic" for five weeks before X-ray examination revealed a large wire ring in the esophagus. The third case giving a negative history of foreign body aspiration was a child three years old who had been treated six weeks for cough, pneumonia and asthma, respectively, before the X-ray revealed a carpet tack in the right main bronchus. All of the cases giving a definite history were caused by carelessness and could have been prevented.

Type of Foreign Bodies.—The foreign bodies encountered in the *esophagus* were as follows: Coins—8; bolus of meat—9; wire rings—2; tacks—2; splinter of wood—1; chicken bone—1; glass bead—1; toy jack—1; squirrel bone—1; open safety pin—1. *Total 27.*

Larynx—Portion of lamp chimney—1; chicken bone—1.

Trachea—Open safety pin—1; grain of corn—1.

Bronchus, right main stem—dental plate—1; tacks—2; portion of corncob—1; coffee grains—2; grain of corn—3; bean—1; watermelon seed—2; peanut—1; glass bead—1; portion of safety pin—1.

Left main bronchus—peanuts—3; broncholith—1.

Anesthesia.—One of the most profitable experiences which we have gained from this work, during the past eleven years, is the use of morphine as a preliminary preparation. This has been especially helpful in children. We find that children tolerate morphine very well. We use Young's rule as a basis for giving morphine to children. We find that we can secure almost as much relaxation from the careful use of morphine as we can from ether or any other form of anesthesia. We give adults $\frac{3}{8}$ of a grain of morphine with 1/150 grs. of atropine sulphate one hour and one-half before operation and repeat in one hour if the desired relaxation is not present.

Results.—There were three deaths in this

*Read at the meeting of the American Bronchoscopic Society, at Atlantic City, N. J., May, 1930.



Exhibit of foreign bodies removed.

series. The first was that of a baby age fifteen months who was supposed to have aspirated a coffee grain three days before admission to the hospital. A history of choking and coughing at the time of the accident was elicited. X-ray and physical examinations were not conclusive. Bronchoscopic examination did not locate the foreign body. The parents lived some distance in the country and were unwilling to leave the child in the hospital for further observation and study. The child died two weeks after leaving the hospital and the family doctor stated the cause of death was pneumonia. This was one of our first experiences with organic foreign bodies in the bronchus. Our methods of X-ray and fluoroscopic study were not as efficient as they should have been and in view of our present knowledge, we feel that this case was most likely an overlooked foreign body.

The second death, a child age three, had been treated for a cough, asthma and pneumonia for six weeks before the X-ray examination revealed a carpet tack which completely blocked the right main bronchus resulting in lung abscess and empyema. A thoracotomy was done twelve hours after admission and the child died forty-eight hours after admission to the hospital. Bronchoscopy was not attempted.

The third death, a child age two, gave a history of having aspirated a peanut three months before admission to the hospital. The mother insisted that the child had "swallowed" a peanut but her history was disregarded as the child was treated for bronchitis and pneumonia. On admission to the hospital, physical, and X-ray examinations revealed a completely drowned left lung and left empyema. A tracheotomy for relief of extreme dyspnea was done. A thoracotomy for relief of empyema was performed. Bronchoscopy through the tracheotomy wound for aspirating the pus was done repeatedly. The pus which came from the left bronchus had an unbearable, cadaverous odor. The child died ten days after admission to the hospital. Gangrene and lung abscess was given as the cause of death. Autopsies were not obtainable in any of the cases. Death was not due to bronchoscopy in either case.

Three cases in this series were referred to Chevalier Jackson, two after failure on our part to remove the foreign body; one, a child five years of age, with a large hollow glass bead

in the right main bronchus. We did not attempt bronchoscopy as we were fearful of crushing the bead. This complication occurred while Dr. Jackson was drawing the bead through the swollen glottis. The fragments were removed and the child recovered. In two cases the foreign bodies were coughed up—one a watermelon seed, the other an open safety pin in the trachea. In the remaining cases, the foreign bodies were removed by oral bronchoscopy, except one case, a child age four, with a portion of a safety pin in the right bronchus, which necessitated a tracheotomy for its removal.

Conclusions: From our study of these cases we present the following conclusions:

1. Foreign bodies may be aspirated by patients of any age.
2. Organic foreign bodies in the bronchi of children prove fatal very quickly unless removed. Inorganic foreign bodies produce fatal complications quickly when a bronchus is completely blocked.
3. The majority of foreign bodies in the air passages lodge in the right main bronchus and in the esophagus at the level of the cricopharyngeus.
4. The possibility of a foreign body being coughed up is very remote and the difficulty of removal increases with the time it is allowed to remain.
5. Lower or tracheal bronchoscopy is indicated in cases of large irregular foreign bodies when the glottis is swollen.
6. When a definite history of choking and coughing is given by the parents of a child, following eating or playing with objects, organic or inorganic, the case should be considered that of a foreign body until proven otherwise by every diagnostic method at our command.

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pital.*

THE TOXEMIAS OF PREGNANCY.*

By
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and
EDMUND M. ELLERSON, M. D.,
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The toxemias of pregnancy may be divided into two general groups: those occurring during the first half of pregnancy—early tox-

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mias,—and those complicating the last trimester—late toxemias.

Early toxemia usually manifests itself as hyperemesis gravidarum and is most pronounced during the second and third months. It has long been the custom to consider three types of hyperemesis: the reflex, the psychic and the toxic. Such differentiation is inaccurate as every case has psychic and toxic aspects, while some have the reflex element as well.

The type of case in which nausea is caused or aggravated by pelvic disorders may well be termed reflex. In the absence of pelvic pathology, hyperemesis is both neurotic and toxic in the end if not from the beginning. Any vomiting patient sooner or later becomes highly nervous, and cases in which nausea may be psychic at first, develop toxemia as a result of lack of nourishment. It would perhaps be more nearly correct to designate two types, the reflex and the neuro-toxic.

When pelvic pathology is the basis of hyperemesis, the rule for treatment is fundamental—remove the cause. This should be accomplished while the case is one of the simple reflex type, before the neurotic or toxic elements have supervened. While the presence of any abnormality may cause or increase vomiting of pregnancy, the most commonly observed condition is retroversion of the uterus. Restoring the uterus to its normal position, under anesthesia if necessary, and holding it in place by means of a pessary will often result in almost instantaneous improvement or cure. Endocervicitis is second only to retroversion in the frequency with which it is found associated with hyperemesis. This condition will usually respond to applications of 10 per cent silver nitrate, with corresponding relief of the nausea. One of the most frequent causes of failure in the treatment of hyperemesis is neglect on the part of the physician to make a thorough examination for pelvic pathology.

Methods of treatment of the neuro-toxic type of hyperemesis are as varied as have been the speculations as to its cause. Hirst's theory of corpus luteum deficiency is ingenious and well worth consideration, but treatment by means of administration of the extract of corpus luteum has not proved to have the hoped-for value. Results of treatment by other glandular extracts have likewise been disappointing.

Admitting that the cause of neuro-toxic hyperemesis is not known, there are certain empirical methods of treatment which are accepted as basically sound. The nervous system should be quieted by hypnotics, liver degeneration should be prevented by the administration of carbohydrates, and dehydration should be combated by supplying fluids to the body.

Practically every sedative drug has been employed in the attempt to control vomiting. Most drugs have been discarded, but there are several which have undoubted value. In mild cases, when the stomach will retain it, luminal is often effectual. One and one-half grains three times a day until drowsiness is produced, continued for several days in decreasing dosage, has frequently controlled vomiting. If nothing can be retained by the stomach, veronal, given as ten-grain rectal suppositories twice daily with gradually lessened doses, will act similarly to luminal. Veronal, however, when given to the point of relieving nausea frequently results in delirium. While a definitely mild case may respond to luminal or veronal alone, it is so difficult to judge the severity of the condition that it is probably wiser to consider every case as serious and treat it accordingly.

An essential feature of the treatment of hyperemesis is the isolation of the patient. Nothing will retard recovery more surely than the presence of sympathetic relatives and pessimistic friends. Proper isolation can be obtained only in a hospital and in a private room. When hospitalization is impossible, admittance to the patient's room should be strictly limited to one person, who acts as nurse.

For the first twenty-four hours of the treatment, absolutely nothing should be given to the patient by mouth. This procedure allows the stomach to become completely empty and at rest. It also has a psychic effect in that after a complete fast of twenty-four hours, hunger and thirst will usually cause the patient to make every effort to retain food when it is offered.

Perhaps the most satisfactory method of securing sedation is by the use of sodium bromide per rectum. Calkins has found that the proper dose is sixty grains and that six hours are required for its absorption. He recommends that this amount be dissolved in two

ounces of normal salt solution and given as a retention enema every six hours until the patient is practically comatose. The dose is then reduced to forty grains, then thirty, and finally, in six or seven days, the drug is discontinued. In order to supply carbohydrates to the liver and fluid to the tissues, it has been the practice of the writers to substitute for the two ounces of normal salt solution, six ounces of 5 per cent glucose solution.

The first food allowed is semi-solid or solid. Toast, either dry or in milk, and cooked cereal are usually tolerated. Fluids are cautiously added to the diet,—water, ginger ale, tea and coffee. Should the patient be unable to retain food, another twenty-four hour fast is ordered and fluid is given intravenously. Five hundred c.c. of a 10 per cent solution of glucose is employed, and this procedure is repeated daily until food is retained.

If, in spite of treatment as outlined, vomiting persists and toxemia increases, the life of the patient may be saved only by interruption of the pregnancy. The determination of the point at which the condition of the patient demands the induction of abortion is one of the most difficult problems in the practice of obstetrics. In general it may be said that a continued pulse-rate of 120 or over, fever, jaundice and albuminuria are positive indications for emptying the uterus.

Of the toxemias occurring during the last three months of pregnancy there are two types: one based on disease of the kidneys—the nephritic form,—and one due to primary liver degeneration—hepatic toxemia. The actual cause of these conditions remains unknown in spite of years of investigation by numberless observers. At the present time no more can be said than that the toxin originates in the products of conception, that it is eliminated by the bowels and kidneys, and that it results in profound toxemia when the digestive tract is not functioning properly. When to the fetal toxins are added the results of sluggish bowel action the maternal liver and kidneys are overtaxed.

Except for minor differences the symptoms of nephritic and hepatic toxemia are the same. In both conditions there are present high blood pressure, edema, headache, visual disturbance, albumin and casts in the urine, usually nausea, and, premonitory to convulsions, epigastric pain. A differential diagnosis should be made

if possible, not for the purpose of treatment, which is the same for both types, but in order to make a prognosis. Toxemia resulting from kidney pathology will certainly recur in future pregnancies, usually with increased severity. One attack of hepatic toxemia may confer immunity unless secondary nephritis occurs. There seems to be no positive method of differentiating the two types of toxemia, although certain findings suggest differences. Blood chemistry is of little value as results of investigation by various workers are widely divergent. Probably a high non-protein nitrogen content, a large proportion of which is urea nitrogen, is associated with nephritis. Kidney function, as measured by the phenol-sulphonephthalein test, is usually found to be less active in nephritic toxemia. Of more value, perhaps, is ophthalmoscopic examination. Albuminuric retinitis usually denotes kidney involvement, while in hepatic cases there is simply edema of the retina. The most certain method of differentiating the two conditions is by watching the course of convalescence. The symptoms of hepatic toxemia will disappear in from two to six weeks; if the blood pressure and albuminuria continue for a longer period, the presence of nephritis may be assumed.

In treating either form of late pregnancy toxemia the first requisite is absolute rest in bed. The diet should be entirely of milk and water. Large quantities of these fluids, three or four quarts daily, should be consumed. Elimination should be accomplished by the daily administration of one ounce of magnesium sulphate. The CO_2 combining power is always low and may be raised by the use of glucose. In mild cases, six ounces of a 5 per cent solution given as a retention enema every four hours will suffice. In the more severe cases, 500 c.c. of a 10 per cent solution should be given intravenously each day.

Liver extract in the form of heparmone given intramuscularly has been used with considerable success by Miller and Martinez. In 1927 it was the privilege of one of the authors to visit their clinic, see their work and analyze the charts of their patients. The lowering of blood pressure and relief of other toxic symptoms were remarkable in many cases. At the request of Dr. Martinez, the manufacturers supplied the authors with material for experimental use and it was given to several pa-

tients. From the study of the charts of Drs. Miller and Martinez and from observation of the small personal series it seemed that heparmone is of value in hepatic toxemia, but that in the nephritic type it has little or no effect. In the latter group of cases severe headache often follows the injection. It may be that in this selective action of heparmone will be found a means of differentiating the two types of pregnancy toxemia.

If, in three or four days, improvement does not follow the treatment outlined, the induction of labor is imperative. The method of inducing labor is determined by the necessity for haste and by the condition of the patient's cervix. In practically all multiparae and in those primiparae who are not in imminent danger, the introduction of a Voorhees bag will initiate labor satisfactorily. Should rapid delivery be demanded, particularly when a primiparous cervix is undilated, Caesarean section is the method of choice. It is rarely necessary to consider the question of sacrificing the child, as the toxemias usually appear after viability. The baby is probably safer prematurely born than it is in the uterus of a woman suffering from toxemia.

Unsuccessful treatment of the preeclamptic states, either nephritic or hepatic, is followed by the "convulsive puerperal toxemia" known as eclampsia. Disregarding the many etiological theories, none fully accepted, it has been found that treatment to be successful must accomplish certain ends. The alimentary tract must be emptied and thereafter spared the necessity of digesting more than a minimum amount of protein; the nervous system must be quieted, sometimes to the extent of narcosis; toxins must be eliminated by every possible method; and in the event of non-improvement following these measures, pregnancy must be terminated.

At present obstetricians are divided into two schools, one believing that removal of the products of conception is all important, and the other preferring to treat the toxemia primarily, leaving the evacuation of the uterus to nature.

The evil consequences of accouchement force, and other brutal methods of rapid delivery caused the obstetricians of former days to devote their efforts toward more conservative means of treating eclampsia. With the advent of asepsis and the increased safety of

Caesarean section, delivery by the abdominal route came into favor. This, however, did not prove to be the solution of the problem, as statistics show a mortality of about 30 per cent following Caesarean section in cases of eclampsia. At present the trend is to avoid operation.

In the obstetrical service at Freedmen's Hospital we attempt to follow a middle course. Obstetrical intervention is practiced only when it becomes evident that the conservative methods of treatment are not sufficient. We believe that in the occasional case in which operative delivery becomes necessary, the time consumed in carrying out the procedures to be described is time well spent, and that this preparation increases the likelihood of recovery after operation.

Believing that the convulsions are a source of danger both to mother and child, our first efforts are directed toward their control. When the patient is first seen she is given one-half grain of morphine hypodermically. This quiets the nervous system and probably helps raise the CO_2 combining power. Morphine aids in the prevention of convulsions and throughout the course of treatment is given in $\frac{1}{4}$ grain doses every hour, if necessary, to control nervous irritability. Should the respirations fall to 10 per minute, the administration of morphine is discontinued. Our chief dependence in the control of convulsions is on magnesium sulphate. Lazard and others advocate the intravenous administration of 20 c.c. of a 10 per cent solution, and Dorsett uses 15 c.c. of a 25 per cent solution intramuscularly. As the eclamptic patient is usually fat, it is often difficult to introduce a needle into the vein; any manipulation is likely to initiate a convulsion; the result is frequently that by the time the needle is in place a convulsion occurs which renders the injection impossible. We have, therefore, adopted the intramuscular method of administration, and have found the results to be the same as when we injected the solution into the vein. The gluteal muscle is selected as the site of the injection as its coarse fibres allow most rapid absorption. A needle at least three inches long is employed, as the solution, if near the skin, may cause necrosis.

The effect of magnesium sulphate is striking. In about fifty cases observed by the authors only one had a convulsion after the first injection, even though many of the patients had

been having fits at intervals of only a few minutes before the treatment. The reason for this effect is not known, but it is supposed that there is a decrease in cerebral edema. Should convulsions recur, the drug may be repeated in one hour.

The intramuscular injection of so highly irritating a drug as magnesium sulphate must occasionally be followed by an abscess. This has never been observed by the authors. A theoretical objection to the use of this drug is the belief that it reduces the CO_2 combining power. We feel, however, that this effect can be overcome by other means and that the importance of controlling convulsions outweighs any other consideration.

No anesthetic is given during convulsions. A general anesthetic prevents the inhalation of air, and the patient needs oxygen. Prevention of injury to the tongue is the limit of interference.

Elimination is effected by stomach lavage until clear return and colonic irrigations of five gallons of fluid. For the former procedure we use a 5 per cent solution of sodium bicarbonate; for the latter, tap water. After the lavage, two ounces of magnesium sulphate are introduced through the tube. Unless the patient is well narcotized by the initial dose of morphine, these manipulations are preceded by an injection of one-quarter grain. Formerly the colonic irrigations were repeated several times at four-hour intervals. We have found, however, that one flushing seems to clear the bowel and we avoid further disturbance of the patient.

If the blood pressure is above 170 millimeters, venesection is performed. We consider this procedure to be of greatest importance. By it, we lower the blood pressure, relieve the heart, lessen edema of the brain and perhaps remove actual toxin. We withdraw 600 to 1000 c.c. or less if the blood pressure falls to 150 millimeters. After venesection we employ 10 per cent glucose solution intravenously to the amount of 500 c.c., hoping thereby to aid in the regeneration of damaged liver tissue. The glucose aids in raising the CO_2 combining power. In addition, therefore, to the intravenous injection, we give, every four hours, a six-ounce retention enema of glucose and sodium bicarbonate, 5 per cent solution of each.

We do not induce profuse sweating, believ-

ing that in doing so we concentrate the toxin in the blood and unduly depress the patient. She is kept warm and usually in a gentle perspiration by means of hot water bags.

Unless the second stage of labor is very rapid, we hasten delivery, after full dilatation of the cervix, by means of forceps or version. Caesarean section is reserved for the primipara with an undilated cervix in the occasional case which does not improve under conservative treatment.

In most cases, if the eclamptic patient has not already done so, she will go into labor. Several of our cases, however, have recovered from eclampsia, have been discharged from the hospital, and have returned in from three to six weeks to be delivered.

The results of the treatment of eclampsia at Freedmen's Hospital during the last three years, compiled by Dr. Montague Cobb, of the House Staff, are presented herewith:

SPECIAL DATA ON CASES OF ECLAMPSIA IN THE OBSTETRICAL SERVICE OF FREEDMEN'S HOSPITAL, DURING THE FISCAL YEARS, 1926-29

FISCAL YEAR	TOTAL NUMBER OBST. CASES	ECLAMPTICS					
		AN-TE-PART	%	POST-PART	%	TOTAL	%
1926-27....	498	4	50	4	50	8	1.8
1927-28....	517	7	70	3	30	10	1.9
1928-29....	471	3	100	0	00	3	.6
Gr. Total..	1486	14	67	7	33	21	1.4

FISCAL YEAR	TOTAL NO. OF DEATHS	%	DEATHS OF ECLAMPTICS					
			AN-TE-PART	%	POST-PART	%	TOTAL	%
1926-27..	5	1.0	2	67	1	33	3	37.5
1927-28..	5	.9	2	100	0	00	2	20.0
1928-29..	3	.6	1	100	0	00	1	33.3
Gr. Tot..	13	.8	5	84	1	16	6	23.8

The percentages under the columns of ante- and post-partum relate to their respective integers under the column of "Total." Those under the column of "Total" in the upper rectangle have reference to the corresponding number, under, "Total Obstetrical Cases," while in the lower rectangle of deaths, they

are taken of the corresponding total number of eclamptic cases.

The term "Treatment A" as will be used in the Table on Record of Individual Cases, refers to that method of treating eclampsia in which the convulsions are controlled by the use of morphine sulphate and sterile magnesium sulphate solution as intramuscular injections, while elimination is effected by high colonic irrigation and gastric lavage with the instillation via the stomach tube of magnesium sulphate solution, with, of course, orthodox symptomatic adjuncts. In this series the treat-

died. Antepartum was twice as frequent as postpartum eclampsia and 84 per cent of the deaths from eclampsia occurred in the former variety, 16 per cent in the latter. The average age of the eclamptics was twenty-four years, nine were primiparas, seven multiparas and the information was not recorded on five.

2. Treatment "A" was used in eighteen cases with five deaths, 27.8 per cent. Deducting three deaths from complications, the corrected mortality in uncomplicated cases in which treatment "A" was used, is two deaths in fifteen cases or 13 per cent.

ECLAMPTICS
RECORD OF INDIVIDUAL CASES
FISCAL YEAR, 1926-27

NUMBER	HOSPITAL CASE NO.	AGE	PAROUS	PARTUM.	DAYS IN HOSPITAL	TREATMENT	RESULT	REMARKS
1	55	19	Prim.	Ante.	24	A	Recovery	Living twins
2	148	25	Mult. 4	Post.	15	A	Recovery	Living child
3	195	33	?	Post.	2	A	Death	Large living child
4	207	31	Mult. 2	Ante.	3	A	Death	Dead from Ces. Sec.
5	261	22	?	Post.	12	A	Recovery	Developed Puer. insanity
6	333	29	Mult. 1	Post.		No treat.	Alr'dy cured	Delivered elsewhere
7	381	38	?	Ante.	2	MS, Gl.	Death	Not delivered
8	458	18	?	Ante.	10	A	Recovery	Developed Puer. Insanity

1927-28

1	60	29	Prim.	Ante.	4	A	Death	Ces. sec.
2	66	25	Mult. 3	Post.	16	A	Recovery	Child O. K.
3	92	23	Prim.	Ante.	13	A	Recovery	Child O. K. prem.
*4	186	25	?	Post.	5	A	Death	Comp. pneumonia
5	268	21	Prim.	Ante.	10	A	Recovery	Still birth
6	313	18	Prim.	Prec.	14	Mod. A	Recovery	Still birth
7	346	18	Prim.	Ante.	11	A	Recovery	Child O. K.
8	351	42	Mult. 14	Post.	16	A	Recovery	Child O. K.
9	352	26	Mult. 1	Ante.	22	A	Recovery	Child dead
**10	453	15	Prim.	Ante.	1	A	Death	Attempted abortion

1928-29

1	290	28	Ante.	Mult. 6	60	A	Recovery	Child O. K., prem.
2	331	18	Prim.	Ante.	40	A	Recovery	Living child
***3	335	17	Prim.	Ante.	10	A	Death	Pulmon. Gangrene

*Death from pneumonia.

**Death following infection after attempted criminal abortion.

***Death due to pulmonary gangrene.

ment as applied showed variation but, in all designated as having had the treatment, the intramuscular injections were employed.

SUMMARY

1. During the fiscal years 1926 to 1929 inclusive, there were 1,486 obstetrical cases admitted to Freedmen's Hospital. The mortality was .8 per cent with thirteen deaths. Twenty-one of these cases had eclampsia, 1.4 per cent. Six or 23.8 per cent of the eclamptics

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ECLAMPSIA.*

By W. W. WILKINSON, M. D., LaCrosse, Va.

This paper will barely touch on a few points of this disease, trusting that its brevity will cause a desire among those present to discuss and bring out more fully than I have done, the cause, prevention, and treatment.

Although literature on the subject is voluminous, it is doubtful if the etiological factor is well understood. It is certain we have different opinions regarding same, so much so that it has been called a disease of theories.

It has been long known that pregnant women who were plethoric, who had a tendency to sleep, and who were swollen, would be liable to have eclampsia.

The disease probably occurs in about 1 per cent of pregnancies, and is somewhat more prevalent in winter and early spring than in summer. It occurs about four times as often in primiparae as in multiparae. Women who have had eclampsia with the first child seldom have it with later births, and most of the cases that occur are in young women.

In about one out of ten cases the convulsion comes on after labor is through.

The theory of glycogen and calcium deficiency, together with an insufficient carbohydrate intake and rather heavy nitrogen diet, with poor elimination, is the most generally accepted cause. The pathology shows degeneration of the liver and kidneys, usually associated with marked albuminuria.

Favorable signs are long intervals and consciousness between attacks, blood pressure not so high, kidneys acting fair.

Unfavorable signs are prolonged and frequent attacks, without a return of consciousness between attacks, suppression of urine, with large amount of albumen, obesity, pulmonary edema and jaundice, with a rising blood pressure.

A large percentage of cases could have been prevented but for the ignorance and indifference of some of our people.

Every pregnant woman, especially the plethoric, should be looked upon as a possible case of eclampsia, and with proper care and instructions, with cooperation of the patient, few cases would occur.

The first sign of danger is usually the appearance of albumen in the urine, so from the

fourth to the seventh month the urine should be examined once a month; during the eighth and ninth months, once every two weeks.

The blood pressure should be taken once a month, commencing with the sixth month. Of course, if there are such symptoms as swollen limbs, dizziness, change in vision, these examinations should be made oftener.

The most important instruction is probably that of diet. It is unwise to eat heavily of meat, fish, eggs or fried vegetables during the latter months of pregnancy. Cereals, milk, vegetables, fruit and plenty of water are advised with a general reduction in the last month. Next of importance is to see that the bowels are kept well open.

With symptoms of headache, pain in the upper thorax, nausea, flashes of light, everything turning dark, twitchings, with high blood pressure, and albuminuria, are indeed serious omens.

If labor is well advanced, a quick delivery is imperative. If labor has not commenced, in the face of the above mentioned symptoms, we are often in a dilemma as to the propriety of inducing labor, thus adding insult to injury to the already injured process of elimination, or as to the use of sedatives, at the same time trying to assist in getting rid of toxins by depleting the system.

Some advise radical treatment, some conservative. Doubtless most of us have tried both, and without being able to decide which is the wisest course to pursue. Here it is that our best judgment is called into action, and each case is best handled by considering it individually. Those with symptoms growing rapidly worse would be the ones calling for more radical treatment; some of those treated conservatively, on account of unsatisfactory results are changed later to more radical treatment.

The induction of labor calls for the use of catheters, bags, or rapid cervical dilatation, followed by forceps or podalic version, as the case may demand. Some cases can best be handled one way, others another; I would consider the quickest, easiest way the safest way. Probably the intravenous administration of Epsom salts and glucose in eclampsia are the most marked advance in the medical treatment of this disease in the last decade. Magnesium sulphate is more often used, due to its being easily prepared and quickly given. While

*Read before a meeting of the Southside Virginia Medical Society, at Suffolk, Va., June, 1930.

glucose is more difficult to prepare and requires to be given slowly, often they are both used on the same patient.

My experience with magnesium sulphate has been so satisfactory that I use it as routine in every case of eclampsia, and I believe it has reduced the mortality more than half.

As to venesection, the results have not been what I had anticipated.

Morphine has been used a long time, and it may be we all use it now to quiet the nervous system. At the same time we are conscious of the fact that it checks elimination, the very thing we would like to increase. We trust some drug will be found better suited to act as a sedative, without the disadvantage of slowing up of the excretions.

THE GENES OF INHERITANCE IN HUMAN AFFAIRS.*

By ST. GEORGE T. GRINNAN, M. D., Richmond, Va.

Two thousand five hundred years ago there was written on the Oracle at Delphi the words, "Know Thyself."

We must agree with Cervantes that this has been one of the hardest things for man to know.

In the past twenty years biologists have been advertising their wares so extensively and have accumulated so much information on inheritance that the medical man can no longer be indifferent to the study of heredity in human affairs. We are beginning to realize that heredity is the greatest factor in the determination of our life.

"So long as the science of medicine is strictly identified with the art of healing and other aspects of human life not fully considered, progress is inhibited."

The melting pot of America is a large biological experiment as to the value or harm of mixing the blood of races.

H. G. Wells says that the biological revolution now going on is greater than the French or Russian Revolution.

East says that in every pathological condition heredity looms large.

"To understand what has happened and even what will happen we have only to examine what is happening."

BUFFON, THEORIE DE LA TERRE

In the fertilization of the egg cell by the sperm cell usually an equal number of items are contributed by each parent. The father contributes one characteristic and the mother another, but "the female parent must always count for more than the male parent, for the egg cell is equipped with building material that the sperm cell lacks" (Sir J. Arthur Thompson). "If there is a vital partnership before birth between the mother and her offspring then will the mother in another way contribute more than the father."

The male is more easily influenced by changes than the female, more sensitive to harmful influences than the female; hence the female is the conservative element of inheritance. Biologists and embryologists have shown that a greater part of the hereditary items are carried in the nuclear rods or chromosomes of the germ cells. Certain hereditary items are called imitatives or genes, and are carried in a particular chromosome.

Man has forty-eight chromosomes. If each chromosome came from one ancestor he can have the chromosomes from forty-eight ancestors only. He is not blood related or chromosome related to all of his ancestors. "After synopsis there are twenty-four maternal-paternal pairs of chromosomes and there are many permutations possible in the distribution of the chromosomes to different germ cells. We have 2^{24} or 16777216 possible different combinations of oosperms, therefore $(16777216)^2$ or about three hundred thousand billion possible other differences." (Conklin, 174).

The inheritance factors are thought by some to be parents one-half, grandparents one-fourth, great grand parents one-eighth, great great grand-parents one-sixteenth, and thus decreasing. Like begets like but never does.

Genes make up the natural inheritance of the species and may give rise to other genes in the course of their development. They have been likened to bags of ferments which form new combinations, or like cards to be shuffled and played in the course of development.

"Man or any complex animal is to be regarded as a single organism, temporarily divided into pieces or individuals. The pieces reunite at intervals and again separate. The enduring parts of the net work are genes. In

*Read by title at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

genes reincarnation is an actual fact." (H. S. Jennings, in *Prometheus*).

It is said that man has in his body genes two thousand years old.

The particular initiatives may be recessive, dormant, or progressive. Dominant characteristics in one parent are apt to be transferred, such as early cataract, musical talent, or the calculating boy.

In shuffling the hereditary genes, like cards, often a new hand is drawn, and a character new in model is produced. The genes are not some mysterious body; they are organic chemicals. It is, therefore, quite clear that defects in genes may be supplied by chemicals or undesirable genes may be cancelled.

Interaction of genes produces new chemicals, enzymes, hormones and endocrine secretions are formed. These again react with other products until a series of successive steps results in all that we find in the body, such as sex hormones, thyroid hormones, insulin and others.

If thyroid is defective, it can be supplied; otherwise, a helpless cretin results. A normal individual may carry defective genes.

While genes are the determining factor, the factor of potentialities, environment, is the realizing factor. It is, therefore, desirable for the best environment possible to realize proper potentialities of genes.

Genes that lack stimuli may be suppressed by other genes suitable to environment. Lack of suitable environmental stimulus will cause recessive or degenerate stock. Easy going conditions are not only without stimulus to new development, but without the sifting which progress demands. The factor of work only prevents a race or family from becoming recessive.

"Society is like a candle which burns out at the top and builds up at the bottom."

What is thought to be good environment is often the worst possible.

Life is short and merry because we are so hot, according to Jaques Loeb. The life of the *drosophila melanogaster* (fruit fly) was prolonged 90 per cent when the temperature was reduced from 30 to 10 degrees. Loeb says that if man's temperature could be reduced 7. degrees centigrade, human life could be extended 1900 years. The effect of environment, as studied by Morgan in his experiments on the fruit fly, has made a profound effect on biolo-

gists. Morgan used perverted methods of environment and produced a population of defectives, 12 leg instead of 6, wingless, bar eye, deformed abdomen, etc. Many mutations and variants were noted.

Professor Millikan has shown that roentgen rays jerk electrons out of atoms with a thousand times the energy that light waves can communicate to them, for the frequency of roentgen rays is a thousand times higher than the average frequency of light. Professor Muller, of Texas University, created a biological sensation last year when he announced that by turning the X-ray on the *drosophila* (fruit fly) he had succeeded in obtaining at least 100 different varieties that had never been seen, varieties that bred true, thereby showing that the genes had been permanently changed. Some of the flies had notched wings, some no wings, others short wings.

Civilization has done for man what Morgan and Muller have done to the fruit fly.

Most defective genes fortunately are recessive. Congenital feeble-mindedness due to a defective gene is very pronounced. It will follow the Mendelian law and appear. Feeble-mindedness has come to stay for generations unless no propagation occurs.

The change that is quite abrupt in heritage is called mutation; it is seen in red or crinkly hair. The Hapsburg lip is an example. Mutations are very heritable, and they have come to stay.

Mutations may be positive or minus. A cow with no horns is a minus mutation.

Longevity may be inherited. Genius comes like a comet and disappears; he cannot pass all of his qualities to his progeny. Genius may be hereditary, and may not, but is hereditary. The work of Francis Galton has settled the question. In genius, heredity and environment and application meet.

Deaf mutism is very transmissible, and if both parents are deaf mutes the offspring will get a double dose.

In heredity the gain of the past is capitalized—heredity holds fast to that which is good.

Simon Newcomb said that his father walked all over Nova Scotia hunting for a desirable wife to raise a good stock of children.

"The mind is made as well as born, and fashioned by the social heritage. It does not

always work for good." In Charles Kingsley's *Water Babies* he notes that nature makes things make themselves. That is the law of progress. Necessity is the mother of invention and curiosity the father.

Heredity may echo a long way back; an occasional man can flap his ears. The tag in the corner of the eye is an echo back to the third eyelid. The bird now can use the third eyelid to clean the front of the eye.

Allowing 200,000 years for the Pleistocene period, man's body has been renewed 8,000 times, and many changes are to be expected.

The size of man's brain does not seem to have increased since the time of Cro-magnons about 25,000 years ago, but the interlacing complexity of the 9,200,000,000 nerve cells of the cerebral cortex has been made more complex, and intelligent thinking and acting may further increase the complexity in our own time. Education is the law of progress. We should foster the variant that is desired.

925 West Grace Street.

PRIMARY PNEUMONIA IN VIRGINIA: AN ANALYSIS OF ONE HUNDRED ADULT CASES.*

By STAIGE D. BLACKFORD, B. S., M. D., University, Va.

In view of the paucity of statistical data on pneumonia in the South, it has seemed worthwhile to analyze the small series of cases which have occurred at the University of Virginia Hospital in the past few years. Smillie and Caldwell¹ have recently reported that pneumococcus group IV of low virulence was the prevailing organism in fifty-eight cases of pneumonia occurring in a rural area of southern Alabama. They further found that common fixed types of pneumococci were relatively infrequent and they suggest that lobar pneumonia takes a much heavier toll in the northern than in the southern United States.

SELECTION OF CASES: In reviewing our records, it has been very difficult to separate lobar from broncho-pneumonia. To obviate this, the attempt has been made to select only primary pneumonia. The overwhelming majority of the cases thus chosen were unquestionably lobar. It was arbitrarily decided to include only those cases in which primary pneumonia was the cause of hospitalization. The

study was confined to patients who had passed their twelfth year and in whom there was definite evidence of pulmonary consolidation either by physical or roentgen ray examination. None of the patients received serum treatment.

Eighty-eight suitable records were found in the 31,109 hospital admissions occurring from March 1, 1925 to March 1, 1930. The remaining twelve were taken at random from the three years preceding 1925.

INCIDENCE: The incidence with regard to age, sex, and race, economic status, and season are tabulated in Table I. The mortality percentage is presented along with the incidence since it illustrates four points which have been emphasized by others: (a) the higher mortality with increasing age, (b) the higher mortality among the negroes, (c) the higher mortality in public ward patients and (d) the higher mortality during the winter and spring months.

TABLE I

Tabulation of Cases By Age Periods

	No. of Cases	Deaths	Mortality
Twelve to twenty-nine-----	61	3	4.9%
Twenty-nine to forty-nine--	22	4	18.2%
Fifty or over -----	17	6	35.3%
Total-----	100	13	13.0%

Tabulation by Sex and Race

	No. of Cases	Deaths	Mortality
White males -----	51	4	7.8%
White females -----	25	3	12.0%
Colored males -----	11	3	27.3%
Colored females -----	13	3	23.1%

Tabulation by Economic Status

	No. of Cases	Deaths	Mortality
Private room -----	28	0	0.0%
Public ward -----	72	13	18.1%

Tabulation by Season

	No. of Cases	Deaths	Mortality
Winter -----	47	9	19.1%
Spring -----	33	3	9.1%
Summer -----	3	0	0.0%
Fall -----	15	1	6.7%

DEFERVESCENCE: Forty-nine cases subsided by crisis and thirty-six by lysis. The method of defervescence could not be determined in fifteen. The temperature returned to normal on the third day in five instances, on the fourth in seven, on the fifth in ten, on the sixth in seventeen, on the seventh in seven, on the

*From the Department of Internal Medicine, University of Virginia Hospital.

Presented before University of Virginia Medical Society, April 21, 1930.

eighth in eleven, and on the ninth in eighteen. The duration of the fever was undetermined in nineteen cases. It will be seen that deferrescence occurred in more cases before the seventh day than after it. The average hospital stay of those recovering was nineteen and seven-tenths days.

COMPLICATIONS: The number of complications occurring in this series was small, probably due to the fact that where a complication was diagnosed before hospitalization, the case was excluded. Empyema occurred three times, otitis media three times, sterile pleural effusion twice, and an antrum infection once. No other complications were recorded.

PROGNOSIS: Factors in addition to those already enumerated which seemed to have a bearing on the prognosis are given in Table II.

TABLE II

Delayed Hospitalization and Mortality

	No. of Cases	Deaths	Mortality
Admitted within 4 days of onset -----	69	4	5.8%
Admitted after 4 days of onset -----	22	6	27.3%

Leukocyte Count and Mortality

	No. of Cases	Deaths	Mortality
Max. W. B. C. less than 10,000 -----	7	4	57.1%
Max. W. B. C. 10,000 to 20,000 -----	27	4	14.8%
Max. W. B. C. 20,000 to 40,000 -----	54	5	9.3%
Max W. B. C. over 40,000--	10	0	0.0%
W. B. C. not recorded-----	2	0	0.0%

Positive Blood Cultures and Mortality

	No. of Cases	Deaths	Mortality
Pneumococcus Type I-----	0	0	0.0%
Pneumococcus Type II-----	1	1	100.0%
Pneumococcus Type III-----	0	0	0.0%
Pneumococcus Group IV--	2	2	100.0%
Streptococcus Hemolyticus	4	1	25.0%
Blood culture negative----	43	1	2.3%
Blood culture not done ---	50	8	16.0%

PNEUMOCOCCUS TYPING: The frequency and mortality by pneumococcus types are shown in Table III.

TABLE III

Mortality by Sputum Typing of Pneumococci

	No. of Cases	Deaths	Mortality
Pneumococcus Type I-----	11	0	0.0%
Pneumococcus Type II-----	3	1	33.3%
Pneumococcus Type III-----	8	0	0.0%
Pneumococcus Group IV--	35	4	11.4%
Not typed -----	43	8	18.6%

SUMMARY: Although this series of one hundred cases from the vicinity of Charlottesville, Va., is small, the inferences which may be tentatively drawn are sufficiently interesting to warrant presentation at this time.

The previously held conceptions regarding the relatively grave prognosis of pneumonia with advancing years is sustained, as is the relatively high fatality rate among negroes. In studying the other factors which might influence the prognosis, it was found that a higher fatality rate was associated with delayed hospitalization, with a low leukocyte count, and with a positive blood culture.

With regard to the type of pneumococci predominating in this vicinity, it is interesting to note that the untyped and relatively avirulent organisms included in Group IV are more common than Types I, II, and III taken together. This is in accord with the findings of Smillie and Caldwell in southern Alabama and suggests an explanation for the lower mortality from pneumonia in the South. The crude fatality rate of the whole series was only 13 per cent.

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TRAUMATIC INJURIES OF THE ABDOMEN.

By CHAS. W. DOUGHTIE, M. D., F. A. C. S., Norfolk, Va.

Injuries to the intra-abdominal organs and structures have in recent years shown a rapid increase in incidence, which can for the most part be ascribed to the ever increasing numbers of mechanical contrivances and to the strenuous sports of a competitive nature.

It is therefore imperative that the general practitioner, as well as the surgeon, should keep constantly in mind the possibility of such injuries and be alert in making a prompt tentative diagnosis of them.

It is exceedingly important when injuries of such a nature are suspected to see that the patient is promptly admitted to a well organized hospital for observation, study, and sane treatment, in as much as delay is hazardous to the patient and should be most disconcerting to the attending surgeon who has failed to orient himself and promptly avail himself of the information which is certain to obtrude itself for his consideration.

Most of us make errors, but most of our

errors are the result of our failure to make use of the information we possess and failure to obtain a careful history or to properly analyze the evidence presented, or because of our inability or neglect to evaluate such evidence as is presented.

Such injuries as we are to briefly discuss include rupture of the solid organs, the liver, the spleen and the kidneys, and of the hollow organs, the stomach, intestines, bladder and ureters. It is conceivable that severe damage may be done to the vessels in this region without the rupture of one of the organs mentioned.

A probable diagnosis is likely to be reached by taking into consideration the history of the injury, that is, the method by which the injury was received, by a careful inquiry as to the sequence of symptoms following the receipt of injury and a thorough study of the picture presented.

It is safe to assert that any injury to one of the organs mentioned will present a picture that is likely to be most impressive if not spectacular.

The picture is one of shock, or hemorrhage, or of both. It may appear to be elementary to discuss in detail either of the above syndromes, but it is never amiss to refresh our memories by reciting the symptoms of each and carefully studying the conglomerate picture of the combination. In hemorrhage, the patient is alarmed and greatly concerned, is pale, the skin is not moist, the pulse is feeble, rapid and shows a decreasing volume. There is a receding blood pressure, air hunger, a decrease in the haemoglobin and the erythrocytes.

To the clinician, it is unnecessary to wait for the microscopic blood picture, in as much as the ordinary senses, to which I would add an additional sense, "horse-sense," should put one in possession of sufficient facts for practical purposes.

Shock is evidenced by the listlessness of the patient who shows no concern or anxiety, cold clammy skin, dilated pupils, a low tension rapid pulse, often nausea and vomiting, subnormal temperature and relaxation of the sphincters.

Hemorrhage may precede shock, or shock may be the earliest picture presented and, as I have above mentioned, the two syndromes may be concurrent and, therefore, present a conglomerate picture. In the latter event, as

in the former, there is little of doubt that the patient is desperately ill.

In ruptured spleen, there is the history of a blow, with sudden collapse (shock) and the evidence of internal hemorrhage, general abdominal pain, rigidity along the left rectus muscle, fixation of the left upper quadrant, dullness or relative flatness in the pelvic area, the outline of which shifts with the position of the patient. Left shoulder pain is complained of very consistently. The severity of the picture is somewhat in proportion to the extent of the injury which was sustained, and the amount of hemorrhage.

In ruptured liver, the symptoms presented are shock, hemorrhage, pain, rigidity of right rectus muscle with fixation of the right upper quadrant, right shoulder pain, peritoneal irritation, dullness over pelvic area in proportion to the quantity of blood which has gravitated to this region. Rectal examination may reveal the presence of a velvety mass which fills the lower peritoneal pouch or perhaps in the earlier period the feel of fluid (not under tension) is imparted. This applies also in the diagnosis of ruptured spleen.

Rupture of the stomach or intestines is immediately followed by the shock-hemorrhage syndrome with pain, fixation of abdominal muscles, grunting respiration, vomiting (early or late) and peritonitis. One should never delay exploration in these suspected cases while waiting for the entire text-book picture to develop, because a complete textbook picture is death's announcer.

In ruptured kidney we have a history of injury to the back, followed by the shock-hemorrhage syndrome, pain in the loin, which extends down to the pelvis, the amount being in proportion to the quantity of retroperitoneal bleeding and escaped urine. Flatness is present along the corresponding flank to the pelvis, which area increases in proportion to the amount of leakage. Fixation of the loin and abdomen is present and there is bloody urine. The X-ray records a shadow.

Rupture of the bladder may be diagnosed by the history of a pelvic squeeze or blow, the shock, possibly the tell-tale evidence of a moderate hemorrhage, fixation of the lower abdominal muscles, bloody urine, pain, and X-ray evidence of a fractured pelvis. Later there may be extravasation of urine, with its attendant symptoms.

The ureter may be severed by a sudden blow. This is the least common of all the injuries referred to and certainly is the most difficult to diagnose. There is less evidence of shock, but bloody urine and the presence of a tumor above Poupart's ligament in the retroperitoneal fossa, between the kidney and pelvis, may be noted, the swelling increasing as the urine is poured into same from the torn ureter. It is certainly most difficult to differentiate between this and a ruptured kidney, but there is less evidence of severe hemorrhage, which evidence is not brought out by the clinical study alone, but by laboratory corroboration; that is, the haemoglobin and erythrocytes fail to show the decrease shown in ruptured kidney. In either condition cystoscopic and ureteral cathetrization is next to impossible, because of the bloody urine, which obscures to the ureteral orifices. It is highly probable and to be expected that there will be present more blood in the bladder from a ruptured kidney than from a ureter, but this is a relative matter and in practice may mean little, in as much as any amount of blood sufficient to obscure the vision will, in practice, preclude differential evidence. If a catheter can be passed into the ureter and the iodide or bromide salt introduced, it is possible to obtain some evidence from the X-ray findings.

It is gratifying to the clinician or surgeon to make a differential diagnosis, but with the major facts in our possession, there is no occasion to delay exploration. The object of our greatest concern is to cure the patient; certainly it is this about which he is concerned.

Having arrived at some kind of probable diagnosis, masterly activity, and not inactivity, is indicated. This does not mean that the patient should be rushed into surgery during shock, without first having made every effort to fortify him against the additional shock, but we should remember that hemorrhage rarely entirely checks itself and that it must be checked by prompt action; otherwise, the patient slips past the line of possible safety and is lost.

In all surgery, we now know that careful preparation is of utmost importance. Almost any man with some knowledge of anatomy, and requisite mechanical dexterity, can operate. However, to be a surgeon means far more. He must at all times have a fairly compre-

hensive knowledge of his patient as a whole and not be content to visualize a locality.

The preparatory treatment must be begun when the patient first comes to the care of the physician or surgeon.

Morphia is of great value, but should not be given prior to having first gotten some fairly accurate information, which cannot be gotten by observing a patient narcotized. If there is shock, the use of adrenalin with saline is valuable. We feel that saline should not be given intravenously, as the volume may cause acute dilatation of the heart and death, but should be given under the pectoral muscles or into the outer lateral aspects of the thighs, either of which is a safer and better procedure. The adrenalin can be injected into the rubber tubing which carries the saline.

If the pulse is racing, digitalis in a massive dose may be given in a few ounces of water by rectum. In fact, I believe it is of much value in stabilizing an uncertain and faltering heart in any major surgery. One c.c. of the tincture for each ten pounds of body weight will not completely digitalize, but it will at least put us in reach of digitalization by the addition subsequently of a few ampoules of one of the hypodermic preparations, which we use at four hour intervals till pulse is below 100.

When hemorrhage is present, the patient should be anesthetized and, when the operation is begun, saline infusion is immediately started and given under one or both pectorals, being continued until the operation is complete and even after the patient has been returned to bed. It can be continued indefinitely if it is not forced too rapidly. If it is possible, suitable donors should be selected and a competent assistant should give 300 to 500 c.c. of blood into the vein very slowly during the operation or preceding same. There is practically no danger if the blood of the donor is properly typed, matched and cross-matched. There is always great danger when this has been carelessly or incompetently done. In the last two years, I have used the citrate method practically to exclusion of the direct method. In fact, we regard the procedure as being so easy and so valuable that the frequency of transfusions in the Norfolk Protestant Hospital have become quite a commonplace procedure. Incidentally, I am led to remark that it is far better to encourage the development

of a technique in the hands of a limited few rather than to encourage the many. It is certain that anyone who is repeatedly giving transfusions is much better prepared than one who occasionally does them.

Glucose is a most valuable therapeutic agent and has been rendered safe in recent years by the large manufacturing pharmacists. Fifty to sixty c.c. of a 50 per cent solution (the ordinary ampoule) may be given intravenously as the patient leaves the table and repeatedly daily if necessary till sufficient nourishment is retained.

Glucose may be given by the drip method, in saline, by bowel or even by hypodermoclysis, using novocain in the latter event.

The latter methods save the veins in many cases for imperative demands.

Heat and rest in a quiet room are indicated until reaction is complete. Friends and relatives should be excluded, since, as a matter of fact, they are among the ill patient's greatest liabilities.

From an operative standpoint, each case presents a somewhat different problem, even in related injuries, and, therefore, must be handled by the surgeon in accordance with the peculiar condition presented in each individual case.

In closing, a few general remarks may be in order. We should always keep in mind the fact that, when the operation is concluded:—A living patient is the first consideration, even if at the expense of brilliantly executed surgery; radical surgery is not always necessary or desirable; and that a ruptured spleen may be repaired successfully, as may also be a ruptured kidney. In either condition, the first indication is to arrest hemorrhage. There is almost always to be found a large clot in the rent which, up to a certain point, has served to check the massive bleeding. While the clot is being removed a competent assistant should have committed to him the pedicle for direct pressure between his fingers or the surgeon, if possible, should clamp the pedicle with rubber covered clamps while he searches for and controls the bleeding points.

The ragged torn edges of the wound should be excised; the bleeding vessels ligated; the rent sutured. Coaptation is best accomplished by passing a few chromic sutures through and through with a blunt round needle or by passing the eye-end of an ordinary non-cutting

needle foremost. It is important not to tie these sutures too tightly. They must not be used to check bleeding. This must have previously been done. A few superficial sutures of plain gut will complete the coaptation.

The necessity for drainage is one which rests upon judgment, varying with the extent of laceration or injury, the character of soiling, and the amount of seepage.

As I have before mentioned, the primary object in these cases is to save the patient; the next consideration is the preservation of structure and function.

I desire to emphasize that it is not always necessary to remove a spleen or kidney that has been severely damaged, and I wish to mention two recent cases in which the organs were preserved.

V. E. R., a lad eighteen years old, while playing football, received a butting blow in the abdomen, which was followed by faintness, nausea, pain in shoulder. Shortly thereafter he was taken to his home, where, after vomiting he drank a cup of tea. He was seen shortly afterwards by Dr. H. M. Doles, who found him shocked. He was complaining of pain in abdomen and left shoulder. The abdomen was rigid. The temperature was 97; the pulse 118; the respiration 26 and distressed.

He was sent to the Norfolk Protestant Hospital. A diagnosis of ruptured spleen was made. He seemed to stabilize and his family declined operation for him until two days later when secondary hemorrhage took place. The abdomen then began to show extensive flatness in the left flank and pelvis, changing somewhat with position.

At operation, the peritoneal cavity showed a large amount of free blood; the lower pole of spleen was torn off, giving the appearance of having been struck a blow with a stout stick; there was a second rent which extended nearly to the hilum.

A wedge was excised which included the ragged tissue; the bleeding points were ligated with mattress ligatures and the spleen was repaired, as described above. The abdomen was closed without drainage. He had a stormy convalescence, developing a pleurisy with effusion. In seven weeks he resumed his work and has since been well.

J. W., a young man, twenty-one, was admitted to the Norfolk Protestant Hospital, fol-

lowing an accident in which he had been struck down by cars in a collision.

Upon admission, he was shocked and, in addition, showed a marked loss of blood. After reaction, he voided bloody urine. The X-ray showed a fracture of the transverse processes of the 1st and 2nd lumbar vertebrae on the left side. A tentative diagnosis of ruptured left kidney was made. During the few hours following a tumescence developed in his right loin and flank, extending to the pelvis. The diagnosis was changed to the right kidney.

At operation, through the loin the right kidney and ureter were exposed. The retroperitoneal space was found to be filled with blood and urine. The lower one-third of the kidney was ruptured and the rent extended into the kidney pelvis. The kidney was with great difficulty poorly mobilized. After trimming off such of the ragged tissue as was possible, hemostasis was accomplished with mattress ligatures of fine catgut and the rent was repaired. Rubber tissue drains were inserted and permitted to remain until drainage had markedly decreased.

The patient's recovery was, so far as I can estimate, complete. The final examination was made in my office, at which time I did a ureteral catheterization, which showed a normal kidney function.

I apologize for not going into greater detail, but the primary import in presenting this paper was to call attention to the injuries discussed, and, by citing two cases, to show that conservation should at least be considered.

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ASEPTIC (LYMPHOCYTIC) MENINGITIS.

By LESLIE T. GAGER, M. D., Washington, D. C.
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In support of the contention of Viets and Watts (*J. A. M. A.*, 93:1553, November 16, 1929), that there exists the entity of aseptic (lymphocytic) meningitis, I desire to place the following case on record, together with a brief diagnostic comment:

W. T., a white male, aged forty-five years, a salesman, was seen in consultation on March 10, 1929, when his medical attendant feared the onset of uremia.

The family history of the patient was irrelevant and the past history also bore little relation to his present illness. There was an

account of chronic catarrh of twenty years' duration. Three months previously there had been a rhinitis and pain in the right ear which subsided without treatment. At the same time, there was a transient skin eruption. There had been no exposure to venereal infection. A wife and three children were living and well. The patient's habits were sedentary, he was occasionally constipated, and had grown obese.

About February 25, 1929, the present illness began with malaise, headache, loss of appetite, nausea and, on three occasions, vomiting. The illness was called "influenza," but no relief was obtained from the exhibition of acetylsalicylic acid, phenacetin and salol, and allonal. For the last five days, a frontal headache had increased in severity and had prevented sleep. There had been no diplopia, no localized weakness and no myoclonus.

The physical examination (March 10) disclosed an over-nourished man lying in bed, oriented but rather apathetic. The temperature was 102°, pulse 84, respiration 18, blood pressure 130/88. The arteries were not thickened, and heart action was regular. There was no tenderness over the sinuses. The eardrums and the throat were not inflamed. The eye grounds, except for doubtful venous fullness, were normal. The neck was not stiff, and the patellar and plantar reflexes were normal. The Kernig sign was suggestive. Heart, lungs and abdomen were without pathological findings.

Upon inspection the urine was clear. Neither albumin nor sugar were found by analysis.

Lumbar puncture revealed a slightly turbid cerebrospinal fluid under a pressure of 14 mm. Hg. It contained (Dr. Tomas Cajigas) 1,730 cells per cubic millimeter, of which 72 per cent were lymphocytes, 26 per cent polymorphonuclear, and 2 per cent mononuclear leucocytes. No organisms could be found in the centrifuged fluid nor in any of the later specimens. Cultures of the spinal fluid remained sterile. An immediate Kahn test was negative, as was the later Wassermann test, and the blood serological study was likewise negative.

The patient was admitted to the George Washington University Hospital with the diagnosis of meningitis of unknown etiology, probably tuberculous. The white cell count was 9,800, with 70 per cent polymorphonuclear cells.

On March 11, a second lumbar puncture revealed fluid under no increased pressure. There

was a pleocytosis of 2,200, 82 per cent lymphocytes, 10 per cent polymorphonuclear leucocytes, 8 per cent mononuclear cells. Examination of the sinuses by Dr. A. P. Tibbets disclosed no acute inflammation, and the roentgen study showed a hyperplastic process of long standing in all the accessory sinuses.

The patient's headache subsided steadily and his temperature became and remained normal on March 13. He was subjected to six lumbar punctures, the pressure of the spinal fluid remaining at 8 mm. Hg. and below. The turbidity of the specimens disappeared, and on March 22, the cell count was 70 cells per cubic millimeter.

On March 24, the patient was discharged from the hospital. He has remained well during the intervening year, with the entire absence of abnormal neurological signs.

COMMENT

Five cases were reported by Viets and Watts from Boston, two occurring in August, 1928, and three in February and March, 1929, and they refer to three cases in children observed by Wallgren, in Sweden, in 1925 and 1926. The American cases included two males, aged thirty-ve and forty years, and three females aged fifteen, nineteen, and thirty-five years. The onset of the illness was acute but mild, with headache, vomiting and moderate fever. Recovery took place in all in from three to six weeks.

In the Boston patients the pleocytosis was entirely lymphocytic and reached a height of 750 cells per cubic millimeter in one patient. With repeated lumbar punctures the cell counts steadily decreased. No clots formed in the cerebrospinal fluids of these patients and no organisms could be demonstrated by smear, culture or guinea pig inoculation.

Tuberculous and syphilitic meningitis and the virus diseases poliomyelitis and encephalitis are at once suggested by the spinal fluid findings. Cerebrospinal complications of systemic infectious diseases must also be considered, while vascular and metabolic disorders may enter into the differential diagnosis.

Whether the self-limited course of events would ensue if the disease were to go unrecognized is problematical. It is clear that spinal drainage gives prompt relief of symptoms and might well influence favorably both mechanical and bactericidal functions of the cerebrospinal fluid. I agree with Viets that it is worth

pointing out that there is an aseptic type of meningitis which runs a definite course and ends in complete recovery.

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ACUTE SPINAL ABSCESS—CASE REPORT.*

By WM. T. GAY, M. D., Suffolk, Va.

G. B., white, age twenty-three, farmer, admitted to Lakeview Hospital April 26, 1930.

Past history and family history essentially negative.

Ten days before admission he began having pain in lower back while hauling fertilizer. Although pain persisted, he continued at work for three days, at which time, while cranking car excessively, his pain became more acute and his family physician was called in. Morphine was given, and a boil which had existed on the neck for several days was incised. For the next four days morphine was given daily for the pain in lower back. The following three days pain was not so severe, but became more localized over lumbar spine and hips, with a resulting urinary retention that required daily catheterization.

On day of admission first noticed a very extensive macular eruption over body and extremities, fever was present for the first time, and there was great difficulty in walking.

Physical examination showed a strong, muscular, robust man with a pronounced toxic appearance. He was not in acute pain; mentality was clear, but locomotion was difficult.

Temperature 101.3; pulse 90; respiration 24. There was a very extensive macular eruption over body and limbs and characteristic wheals, but this was not accompanied by itching. Pupillary reactions negative; no headache; larynx very red and congested; lungs clear; abdomen markedly tympanitic, but was neither tender nor rigid. Inguinal glands were enlarged but not tender, and there was a small subcutaneous mass in left loin. Reflexes in lower extremity greatly diminished with sensation nearly absent below umbilicus. There were also evidences of urinary retention.

Urine showed albumin one plus, and occasional pus. W. B. C. 16,800; 85 per cent Polys. Spinal puncture—dry tap. Repeated with larger needle without results; then aspirated and obtained a very thick creamy pus, which showed pure staphylococci in abun-

*Read before the Southside Virginia Medical Society, at Suffolk, Va., June 10, 1930.

dance. Wassermann and blood culture negative. Next day puncture repeated, and one ounce of thick pus was again aspirated.

On the third day, motor and sensory paralysis of lower extremities was complete—with no signs of cerebral irritation. There was absence of headache, no nausea, temperature 103.

Puncture made between 6th and 7th dorsal obtained a clear fluid which escaped freely from needle but apparently not under increased pressure. It was now clear that the condition was a localized suppurative intra-spinal abscess, being securely walled off above.

Two punctures were then made—one between 1st and 2nd, and one between 2nd and 3rd lumbar. Pus was aspirated and the canal irrigated with saline solution and diluted S. T. 37.

This was continued daily for three days and temperature reduced to 99. Aspiration and irrigation of the pus area did not show any sign of increase or decrease of spinal fluid pressure. On seventh day the pus was so thinned out as to run freely from needle without aspiration. On the fifteenth day fluid was thin, flowed freely, and was not under increased pressure.

Motor and sensory paralysis of the lower extremity was still complete, with intermittent fever 99-102. Repeated urinalyses showed only an occasional pus cell and one plus albumin.

In spite of frequent changes of position, massages and other methods used to keep lower extremities in good condition, he began to develop necrosis of buttocks, thighs, both front and back, legs and feet. Sloughing continued and temperature remained high with profuse sweating. Absence of headache and other cerebral symptoms were noteworthy.

He gradually continued down hill and expired thirty days after admission.

As there was an absence of bony involvement or history of trauma, this case was most likely of metastatic infection secondary to or having the same origin as the abscess on the patient's neck.

From an extensive review of literature, it is apparent that cases of staphylococcus meningitis are comparatively rare. Cases reviewed failed to show a similar case in which there was a complete localization of a suppurative staphylococcus meningitis that was confined to the lower segments of the spinal canal, and without showing at any time cerebral irritation.

The unusual development, clinical course and pathology is my excuse for reporting this case.

THE RECOGNITION OF GOITER AND HYPERTHYROIDISM.*

By W. WARREN SAGER, A. B., M. D., M. S. (SURG.),
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The present brief paper I have devoted to the question of the recognition of goiter and of hyperthyroidism, rather than any consideration of diseases of the thyroid other than goiter, or any consideration of theories of goiter etiology.

The reason for this is the increased morbidity and mortality associated with delay in instituting adequate therapy, which is illustrated by the mortality statistics of the Mayo Clinic for the year 1927, when there were no deaths in the cases of exophthalmic goiter operated upon during the first year of the disease, the total mortality occurring in the group of cases who had their disease more than one year.

The present simplified classification of goiters into colloid, adenomatous and exophthalmic goiters we owe to Plummer's insistence that there are only three definite types.

Colloid goiter is a goiter of youth, rarely seen later than thirty years of age and occurring most frequently between the ages of fifteen and twenty-five years.

This type of goiter is recognized clinically by the symmetric enlargement of both lobes and of the isthmus of the thyroid and by the characteristic soft feel it imparts to the examining finger, and microscopically by the dilatation of the acini with colloid, while the epithelium lining the acini is low and flat in appearance.

A slight nervousness due to its presence is most frequently the only symptom caused by this type of goiter, though such a patient may, however, complain of cardiac palpitation, tremor, tachycardia, and have thrills and bruit over the thyroid, presenting a clinical picture resembling closely that of exophthalmic goiter.

However, the nervous manifestations are those of a psychoneurotic individual. The basal metabolism is normal or subnormal, the systolic blood pressure is not elevated, nor is the pulse pressure increased as in exophthalmic goiter.

*Read before the Medical Society of the District of Columbia, Maryland and Northern Virginia, May 22, 1930. This paper was given at the request of Dr. Daniel L. Borden as an introduction to a motion picture illustration of the technique of a thyroidectomy.

Such patients are best treated medically, and surgery is performed only for symptoms of pressure or to correct the ill cosmetic effect in well selected cases.

Adenomatous goiter, so named because of the development in the gland of adenomata which cause an irregularity of contour of the thyroid, is the most common type of goiter, and may be either toxic or non-toxic.

Plummer found that about 23 per cent of patients with adenomatous goiter examined at the Mayo Clinic showed toxic symptoms.

Malignancy of the thyroid gland occurs almost exclusively in adenomatous goiters. Bowing, in 1927, reported 11,103 cases of supposedly benign adenomatous goiters operated upon at the Mayo Clinic, and gave a percentage of malignancy of 1.55 per cent. Toland quotes Kocher's percentage of malignancy in the thyroid as 7.45 per cent. These growths, if removed early, offer a favorable prognosis.

The symptoms of adenomatous goiter without hyperthyroidism are dependent upon its size and pressure upon adjacent structures. Large adenomatous goiters render the neck unsightly. Adenoma which may or may not be visible on inspection may, by pressing on the trachea, cause dysphagia, or, by pressing on one or both laryngeal nerves, cause dyspnoea, brassy cough and partial or total loss of the spoken voice.

The treatment of this type of goiter is surgical, with operation in young persons delayed preferably until after twenty-five to thirty years of age.

Toxic goiters are of two types, the exophthalmic type and the toxic adenoma.

These two types of toxic goiter present in their classical form no difficulty in diagnosis or in differentiation from one another, but in less typical forms both difficulty in diagnosis and in differentiation from one another.

Exophthalmos occurs in exophthalmic goiter in but 51.9 per cent of cases. Unilateral exophthalmos occurs in 1.06 per cent, and it may be the first symptom noticed.

Goiter crises, characterized by extreme malaise, exceedingly rapid pulse, extreme restlessness, nausea, vomiting, diarrhoea and delirium, occur only in exophthalmic goiter.

The thyroid gland in this disease is symmetrically enlarged. There is found a decrease in the iodine content and in amount of colloid

with a tremendous hypertrophy and hyperplasia of the parenchyma.

Exophthalmic goiter that occurs in younger people is more acute and rapid in onset, effects the nervous system more severely, and is attended by a greater degree of toxemia than is toxic adenoma.

The only clinical finding of adenomatous goiter with hyperthyroidism not found in exophthalmic goiter is the enlarged nodular gland.

From the diagnostic view-point, the first important procedure is a routine examination of the thyroid. Place the index finger and the second finger of each hand immediately above the clavicle and behind the sterno-mastoid muscle and press gently toward the medial lines. Place the two thumbs over the midline of the neck and ask the patient to swallow. An accurate outline of the thyroid will be felt.

The next consideration is given to the symptoms of an elevated metabolism, such as an increase in appetite coupled with a loss of weight, an intolerance to heat, the patient stating that less bedclothes are required, that hot weather is not borne well, and that perspiration is increased.

Examination of the vascular system in toxic goiters will reveal an abnormally high systolic blood pressure, and an abnormally high pulse pressure, generally above 40, and a rapid pulse rate. This rate may go as high as 160-200 in severe cases, though rates of 100-120 are more frequent in office practice. An absolutely irregular pulse resulting from an auricular fibrillation is not uncommon. In any case where an auricular fibrillation is present, the presence of a toxic goiter is suspected.

A characteristic symptom is a weakness of the quadriceps femoris muscle, patients being unable to step up on a chair without assistance, or they may notice this in being unable to go up and down stairs as well as they could normally.

The patient is less well-balanced emotionally and, though the patient states that he or she feels well, tires easily.

All toxic goiters have an increased basal metabolism.

Unfortunately, an increase in basal metabolism is not diagnostic of toxic goiter. The active stage of acromegaly, all febrile conditions, essential hypertension, pernicious ane-

mia, leukemia, diabetes, and possibly other conditions will cause an increase in the basal metabolic rate. Boothby has found that about 95 per cent of all cases of elevated metabolism are due to toxic goiter.

We find occasionally a patient in an institution for the insane who is there because of an unrecognized exophthalmic goiter. Tuberculosis is often mistaken for hyperthyroidism, and frequently the mildly toxic adenomatous goiter case is mistaken for a cardiopath and treated for cardiac disease, which may progress to marked decompensation before the possibility of adenomatous goiter is considered.

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AGRANULOCYTIC ANGINA SIMULATING DIPHTHERIA.*

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The term agranulocytic angina was first used in Germany, in 1922, by Shulz to describe a symptom-complex rather than a disease entity, characterized by sore throat, necrotic pseudodiphtheritic membrane, elevation of temperature, marked prostration, and a disappearance of leucocytes. The condition usually has a fatal termination.

In the early 80's there were cases reported of a condition similar to this, but not recognized as such. The cases were sporadic. In 1907, Turk, and in 1912, Stursbery, observed the condition, with disappearance of granulocytes in bone marrow and a staphylococcic sepsis.

It remained, however, for Shulz, in 1922, to report the first series of cases and to give the condition its present name. Since then there have been scattered case reports in this country and in Europe.

Etiology and Pathology.—Explanation of the nature of the disease rests on hypothesis alone. The multiplicity and variety of the foci speak against specificity of the angina.

The failure of the leucocytic resources of defense against the infections is clinically expressed by the massive aggression of the mucosa through the germs, which shelter and which normal activity of the polynuclears is calculated to check. The consensus of opinion is apparently that the membrane is a result of the blood and marrow changes, rather than a cause of it.

Shulz seems inclined to believe in a specific toxic infection, possessing a particular affinity for the granular elements of the blood, and elective lytic activity toward them. But for the true explanation of its nature he is incapable of advancing beyond the realm of hypothesis. Congenital predisposition seems excluded by report of Ehrmanus and Preuss.

The blood changes are as a rule prior to the stomatitis. Zikowsky thinks that it is a "severe form of sepsis occurring in a weakened organism, resulting in injury to the leukopoietic system as such, and in paralysis of the organ complex (liver, spleen, and endocrine glands), the secretions of which stimulate the bone marrow and regulate the entrance of the granular cells into the blood stream." Friedman regards the disease as a monocytic angina, and the agranulocytosis as a particular manner of reaction of the haemopoietic system to a specific anginal pharyngeal infection. Skiles seems of the opinion that the condition is brought about by one of two factors: "A specific infection resulting in local necrosis, with the formation of a specific toxin for the bone marrow, or else, as a primary affection of the bone marrow resulting in an inhibition of the granulocytic formation, due to lowering of the resistance of the patient."*

From various reports the laboratory findings have all been negative, except for the disappearance or decrease in leucocytes. Throat smears and cultures have all shown either nothing or a variety of mixed organisms.

Summarizing those isolated cases that have come to autopsy, we find the bone marrow grossly red, but microscopically poor—with almost a total absence of granulocytic cells, and a predominance of lymphocytes and endothelial cells. There is an endothelial hyperplasia in spleen and lymph nodes. The regions of infection show a peculiar lack of cell response.

Symptoms and Clinical Course.—The dis-

*Read before the Mecklenburg County Medical Society, September, 1929.

*A. L. Tynes, M. D., Va. Med. Monthly.

ease occurs at all ages, more frequently in females. The onset is usually sudden with elevation of temperature, sore throat, nausea and vomiting. A dirty necrotic membrane appears on throat, rapidly becoming extensive. There is also regional adenopathy, usually with a marked enlargement of cervical lymph glands. There is as a rule marked dysphagia. The temperature ranges from 101 to 106. There is early exhaustion and a very rapid progress of the disease with a comatose condition usually preceding death. Average duration is from four to eight days. Extremes may be from two to seventy-two days.

There may or may not be a marked icterus, and the liver and spleen may at times be enlarged.

The symptoms as a rule come on in a period of good health, though there may be preceding a period of protracted illness, or some other condition which should result in the body being physically below normal.

The blood picture as a rule precedes the anigal picture. There is a rapid decrease in the leucocyte count. The patient becomes progressively toxic and the suffering intense until recovery or death gives relief.

Differential Diagnosis: 1. Diphtheria,—negative smears; lack of response to antitoxin; blood count.

2. Several other conditions may likewise show decrease in leucocyte count.—toxic poisoning, as arsenic and fulminating purpura. Here we have an acute overwhelming sepsis and rarely leukemia.

Prognosis.—Usually fatal, death occurring within two to eight days. If recovery occurs, blood picture returns to normal.

Treatment.—All forms of treatment seem to be futile. The occasional cases that are reported as recovered did so under different forms of therapy. Blood transfusions, X-ray of long bones, local and systemic medication have all been tried. Probably transfusion coupled with X-ray therapy offers the best chance.

REPORT OF CASE

In reporting this case I do so with some hesitation. The diagnosis was a result of a consultation with Dr. Higgins. Scattered cases have been reported, and this case was diagnosed by the writer as diphtheria and treated as such, and I believe, under similar circumstance, the same procedures would be followed again.

Mrs. W. H. E. Age twenty-seven, white, married, no children.

Family History essentially negative.

Past History.—Has been in poor health for past year. Influenza (mild), December, 1928. Sinusitis April, 1928. Has suffered with dysmenorrhea all of life, exact cause of which was unknown, but probably a result of a retro-displacement. For past year has been subject to intense headaches, the cause of which was never determined. Consulted the writer on numerous occasions, and was referred to Dr. R. W. Vaughan several times for treatment of sinuses. Refractive error of eyes present, but correction did not relieve headache.

On June 13, 1929, she had the misfortune to fracture her right forearm. This was reduced and a cast applied. About a month prior to this accident, she had a very severe nervous shock.

Present Illness.—For several days she had not been feeling well,—malaise, headache, and very slight sore throat. On June 24th she called the writer, at which time she was complaining chiefly of sore throat and headache. Examination at this time showed the pharynx slightly inflamed. Temperature 101. She was given a mild antiseptic gargle, a saline purge, and throat was swabbed with neosilvol 20 per cent. There was very slight nausea. The case was so mild that I did not intend to call the next day, however, I was called and the following found:

Physical Examination (June 25, 1929).—Patient appears to be suffering a great deal. There is some difficulty in deglutition. Right arm in cast. Head and Neck—Marked enlargement of anterior cervical glands. No fluctuation. Throat—Dirty gray necrotic membrane of tonsils, more marked on right side and involving pharynx. The entire throat is edematous. Heart and lungs negative. Abdomen, liver and spleen not enlarged. Reflexes normal. Blood pressure 120/70. Urine highly colored, no albumin or sugar. Microscopic findings negative. Specific gravity 1.014.

Impression. — Tonsillar and pharyngeal diphtheria.

The next day she was suffering intensely with her throat. Temperature 102 and there was a grayish membrane covering right tonsil and part of pharynx. Smear was made and forwarded to the State Laboratory. A tentative diagnosis of diphtheria had been made

and 10,000 units antitoxin given the day before. There was slight enlargement of cervical glands. The following day the temperature was up one degree, the throat had become very painful, and there was beginning to be a palatine paralysis. There was marked enlargement of glands. That afternoon the symptoms became worse, and Dr. Finch was called in consultation. Diphtheria was agreed upon, and 10,000 more units given with no effect. The patient became more toxic, nauseated, had difficulty in swallowing and intense pain in throat. There was regurgitation of liquids through nose. Nasal feeding was begun the following day. Right tonsil appeared abscessed and was incised in the vain hope of relief from the suffering which had become almost unbearable by this time.

On June 28th the patient's condition was much worse, and Dr. Wm. H. Higgins, of Richmond, was called in consultation. Physical examination at this time checked with previous examination. Other throat smears were made. Diphtheria was considered the greatest probability, though Dr. Higgins suggested the possibility of agranulocytic angina, but we gave her 10,000 more units of antitoxin. Heart began to fail, for which caffeine sod. benzoate and digitalis were given. Blood count at 4:30 P. M. was—leucocytes 800 and at 7 P. M. 700. There was beginning cyanosis and respiratory embarrassment and cardiac distress. 500 c.c. 5 per cent glucose was then given intravenously. At 2 A. M., leucocytes 200 to 300. Marked erythema extending over right side of face to right breast.

June 29th, semi-comatose. Temperature 106; pulse too rapid to count. Respiration ceased 9 A. M.

Laboratory Findings: Throat smears negative for diphtheria. Leucocyte count 800, 700, and 200. Hemoglobin 65 per cent. Red count and platelets apparently normal.

Differential—six slides studied—two to fifteen cells found on each smear.

Summary.—The case presents several points of interest:

1. Confused with diphtheria.
2. Rapid decline of leucocytes.
3. Previous history of trauma to long bones.
4. History of recent nervous and mental strain and worry and in a poor physical condition.
5. Absence of jaundice.

6. Importance of routine blood studies.
7. Sudden onset and rapid fatal termination.

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THE SPIRIT OF "THE OATH."*

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Those of us who believe that historical perspective is perhaps the greatest acquirement of knowledge and experience are continually being saddened by evidences everywhere to be seen that, though "knowledge with her ample page, rich with the spoils of time" is now unrolled before the world as never before in its history, the truth in the record, so essential to the guidance of mankind if the mistakes of the past are to be avoided, is so often completely overlooked.

Indeed, the additions, omissions, and other changes that have taken place through the centuries at the hands of ignorant or interested scribes, interpreters and administrators, have in many instances so changed the record as to make wisdom appear foolishness and sages anything but wise. Thus it is that along with much that is known as Holy Writ some of the finest contributions to the earliest ethical beginnings of medicine have been misunderstood, neglected or misapplied.

Medical men are proud of the high character of the precepts transcribed in the long ago for their guidance by the great Hippocrates, and particularly with that most familiar of them all "The Oath."

The Ikon.—Upon the walls of the reception rooms of most physicians hangs an illuminated copy of this cherished scroll, but, like the creeds and formulas of religious significance in the progress of the race, this oath is read or recited on appropriate occasions, though rarely if ever are its stately paragraphs examined carefully in the light of the time in which they were penned, and the living truth there found adapted in entirety by physicians of the present day. The Hippocratic Oath represents the charter of the ethical faith of the doctor, and there is as much need for the twentieth century physician to know and ob-

*Read before the Whitehead Medical Society of the University of Virginia.

serve its tenets as for the contemporaries of Hippocrates.

The keeping of an oath or other obligation assumed by honorable men involves due concern for the spirit as well as the letter. It is the spirit of this great document which is especially commended in this paper. This spirit lies deeper than the surface, and it is of supreme importance to the future of medicine that this spirit be fully apprehended by all who accept the text as authoritative.

Let us then examine the oath, paragraph by paragraph, and see what it bears for us that may have hitherto escaped our attention.

The Invocation.—It begins solemnly and religiously. "I swear by Apollo, the physician, and Aesculapius and Hygieia and Panacea and by all the gods and goddesses that according to my ability I will keep this oath and stipulation." To the God of Light, of Medicine, of Music, of Poetry, and of Rhetoric, Jupiter's chosen son, the second deity in the celestial galaxy, the divine Apollo, is this sacred pledge first given; then to Aesculapius, his son, the patron God of all true medical men, to whom Apollo has committed all medical lore; to Hygieia, Health, the favored daughter of Aesculapius, and her sister, Panacea, Cure, the physician pledges his faith as before especially appropriate witnesses. Then, because of the universality of his Art and its claim to every beneficent influence in Heaven and Earth, he calls on all other gods and goddesses to hear him as he takes the obligation on entering the sacred precincts of medicine, and affirms "I will keep this oath."

Gratitude.—"To reckon him who taught me this art equally dear to me as my parents, to share with him my substance and relieve his necessities if required, to regard his offspring as on the same footing as my own brothers, and to teach them this Art should they wish to learn it, without fee or stipulation."

In this paragraph, at the outset, he sets forth the obligation to exhibit gratitude. From his teacher he has received intimate knowledge concerning the human body, its ills, their cause and their cure. The knowledge was to Hippocrates and his honorable contemporaries a divine gift,* and, therefore, the teacher of medicine was looked upon as a messenger of

God, and nothing within the gift of the pupil was too great to bestow upon him.

Not only must the teacher be cherished, but his sons and daughters as worthy recipients *per se* must, without cost should they so desire, be admitted to the benefits and obligations of medical knowledge.

It is said that ingratitude is the basest, as it is one of the commonest of human traits. It should not be necessary to dwell on the peculiar virtues of the opposite characteristic—gratitude. Doctors are perhaps in better position than any other group of men to fully appreciate it. Neglect of the doctor when the emergency demanding his presence is past is so frequent that it has become proverbial. Hippocrates considered gratitude so important that he pledged his successors to it in his greatest pronouncement, and Jesus of Nazareth thought so highly of it as to thrust it as a duty upon his followers, illustrating it graphically in his greatest parable, that of the Samaritan physician in action on the road to Jericho.†

Hippocrates in like manner charges his disciples to love their teacher, their superlative benefactor, as themselves, and specifically tells them how to make their love a concrete reality.

Alma Mater.—Under modern conditions, since the individual preceptor in medicine no longer functions, this love and loyalty is due to the school from which knowledge of the Art was received. The teacher of medicine has now ceased to be an individual, and has become a composite entity, an institution subsidized in large part by medical philanthropy and the state. Relationship to this institution, however, is not impersonal, for it still remains that of parent and child, and satisfaction and pride in the achievements of the children whom it has cherished, trained and inspired, is its supreme gratification. No physician, true to himself, would wish to be released from the obligation to furnish by the high quality of his life and deeds the only return that can be completely acceptable to "Alma Mater." This sense of obligation should grow stronger year by year, and since touch with the fostering mother can only be maintained in many instances by contacts with the

*"So that the first inventors pursuing their investigations properly, and by a suitable train of reasoning, according to the nature of man, made their discoveries, and thought the Art worthy to be ascribed to a god, as is the established belief."—Hippocrates, "Ancient Medicine," page 14.

†After having told the Samaritan story to the Jewish lawyer, Jesus asked, "Who was neighbor to him who fell among thieves?" The answer was, "He who helped him." "Go thou and do likewise," said Jesus. In other words, "love as yourself the neighbor who helps you," i. e., being grateful to the last degree to your benefactor.—Luke, 10:25-37.

younger brothers coming forth from under her tutelage—to these, as the oath enjoins, should special consideration be shown. If the parent school languishes by reason of insufficient equipment or teaching, in other words, is not adequately supported, then upon her children rests the stigma of neglect or repudiation of the sacred duty of filial love.

By virtue of the Oath, medical education is the peculiar responsibility of physicians, and well have they discharged it. The standard set and maintained is high. There are no profit-making medical schools now, but it is high only by reason of the loyalty of honorable beneficiaries to a truly noble art.* Since the exhibition of gratitude to the source of his patent of nobility is the only unequivocal evidence that the accolade was worthily bestowed, the obligation here assumed is of deep significance.

The Preceptor.—Following this pledge to return good for good, the Oath further declares that by precept, lecture and every other mode of instruction I will impart a knowledge of the art to my own sons and to those of my teachers and to disciples bound by a stipulation and oath and to none others. Let us paraphrase this pledge. "I will teach this knowledge to my sons, my teachers' sons, and, if to others, only to especially selected disciples." This is a specific pledge—"I will teach." The doctor must, therefore, teach, and teach in understandable terms. Elsewhere than in the Oath Hippocrates makes this admonition plain.† The doctor cannot remain silent and be true to his Art. Before one can qualify to speak, however, there should be a background of research and observation,‡ and the doctor owes it to himself and the future welfare of humanity to record his experience and give to the world the benefit of his thought on the infinite variety of physical and biological phenomena continually passing before him. No sense of humility or diffidence should hinder any doctor, however obscure his situation, from exercising his special function as a teacher of his Art. Many men high on the

roll of medical benefactors of the race were simply studious and observant private practitioners who thoughtfully and diligently recorded what they saw and intelligently expounded and defended their observations and results. It follows, therefore, that only the thoughtful and well-prepared should aspire to enter medicine. Having entered it, the application of the doctrine of "practice what you preach," so essential as a principle among honorable men, becomes in the fullest sense obligatory. The "do as I say, not as I do" cynicism may win pity and tolerance at times, and for a time, for certain talented exponents of it; the respect, however, of those whose opinion is most to be valued will inevitably be forfeited by the man whose deeds do not square with his words. The doctor above all should in character and conduct reflect the principles of the Ancient Art to which he has given his allegiance.

The Aristocrat.—This knowledge must be taught first to doctors' sons as to pupils, who, having been brought up in the atmosphere of the home of one devoted to unstinting service to his fellow man, would be in best position to know the true significance of the doctor's art, its background and its difficulties, and then to those others only who could be made to understand all of the implications and obligations the practice of medicine imposes. Hippocrates perceived that "medicine" must not be made a common thing, that in its very nature only a true gentleman could be safely trusted to practice it. The neglect of this fundamental condition with respect to initiates in medicine has been the cause of all the serious troubles that have disturbed the medical brotherhood.

That medical education is now on a higher and more discriminating plane than it has been since it was institutionalized is clear evidence that the leaders in medical education are not neglecting first principles and that the Oath in one very essential particular at least is still felt to be binding.

Let it then be repeated until it is recognized by all who influence medical education—and that should include every doctor—that "medicine" is a natural aristocracy and only chosen ones can be trusted to enter its hallowed precincts and carry out its sacred functions. Not as has sometimes been assumed, because it was thought that "common folk" could not be made

*"Medicine is of all arts the most noble."—Paragraph 1, Hippocrates, Law of Medicine.

†"Whoever does not reach the capacity of the illiterate commonfolk and make them listen to him, misses his mark."—Ancient Medicine.

‡"These requisites belong of old to medicine, and an origin and a way have been found out by which many and elegant discoveries have been made during a length of time, and others will yet be found out. If a person possesses the proper ability and knows those discoveries which have been made, he should proceed from them to prosecute his investigations."—Hippocrates, Ancient Medicine.

to understand, and that they could best be handled by the doctor if they were mystified, the Father of Medicine specifically declared the contrary,* but because in its very essence the Art dealt with the fundamentals of life and living, and only those whose character, temperament, aptitudes and social background could hope to properly qualify to meet the demands of the situations the physician must face. The status of intimate friend and comforter in the homes of the people, when pain and distress have stripped soul and body bare of every veneer that civilization has provided to keep self-respect alive, can only be satisfactorily achieved by one who is wise in his art and true and clean in heart and life.

The Guardian.—The family physician has in large measure been the factor, in so far as any single factor may be named, that has held society together through the centuries, and there appears to be a definite relation of cause and effect, that in his passing much that we oldsters have cherished as the essentials of civilized conduct, seems to be passing too. Family life, respect for age, reticence, courtesy, dignity, temperateness, and reverence are going fast, and more's the pity the public seems disposed to shed no tear. Change is inevitable, and it would be silly to inveigh against changes that render obsolete, admirable and cherished institutions, but may one, who has long since left the ranks of the private practitioner, be pardoned for deploring the passing of that noblest concrete expression of civilization's noblest ideals—the family doctor. Well has he served a long, long day, and though progress with her telephone, auto, good roads, airplane, and radio hook-up that makes everybody live next door to everybody else, but nobody a next-door-neighbor to anybody, is steadily relegating him to the limbo of the loved and lost; fortunately, his principles and his spirit still live in the profession that produced him, and in this old document that is emphasized here today is found the talisman that made him what he was.

"I will follow that method of treatment which according to my ability and judgment I consider for the benefit of my patients and abstain from whatever is deleterious and mischievous."

In the above paragraph is contained a pledge

for the particular benefit of the individual. It says: "I will do my best, not for myself but for the person who needs my services." Elsewhere in Hippocrates' writings,* he remarks upon the difference in the knowledge and ability of doctors and he urges upon them in specific terms the obligation to acquire the one, and describes in detail the method by which the other may be increased. He manifestly took his art very seriously and in framing the Oath he did his best to exclude from his fraternity all who would trifle with the lives of men and women, whether patients or not. I will not only do my best, says the Oath, but I will refrain from doing harm.

The Conservator.—Furthermore, the Oath says: "I will give no deadly medicine to any one if asked, nor suggest any such counsel. I will not give any woman a means to produce abortion. Here Hippocrates gives a specific detail of what he means in the preceding paragraph of the Oath. In these emphatic sentences, however, he passes beyond the urgent concern for the individual and sounds a note of public service. The individual as a unit of the community is recognized and the doctor's duty as conservator of community well-being is definitely fixed. He will not connive at self-murder in any circumstances. He distinctly recognizes that in the development of a social organism all elements composing the body politic have their proper place and responsibility, and nothing will be done by him to aid an individual to shirk that responsibility by suicide. Under the laws and institutions of their native land have its citizens grown up and benefited by its protection and opportunities, and they owe it true citizenship and the interest of productive lives. To deliberately cut themselves off for personal reasons is to play the coward and defaulter's part. Poisons were not readily obtainable in Hippocrates day and the physician was virtually the only source upon which the public could draw for drugs that gave easy death. Physicians, then as now, could be found who, for pay, would prostitute their art in this regard, as in other things. Hippocrates, by a clause in his oath, proposed as far as possible to purge the fraternity of such men.

Then, again, striking an even harder blow at a source of the venal doctor's income, and

*"The Art does not need an empty hypothesis like those that are occult or dubious."—Ancient Medicine.

*In his treatise on Ancient Medicine and in the Law.

still more definitely committing his followers to the public welfare, Hippocrates, pledges them not to aid women to rid themselves of the products of conception. The very existence of the state depended upon motherhood, and the destruction of the embryo child was in his view a peculiarly flagrant act of treason, since not only was the future citizen destroyed, but health, procreative ability and the life itself of the mother were jeopardized.

The Mentor.—The warning contained in this affirmation thought so important by Hippocrates was, as we all know, unheeded by the intelligentsia of his day and succeeding centuries. How different, may we imagine, would have been the history of Southern European peoples in the past two milleniums had not the virile ruling classes found means to prevent their women bearing children in sufficient numbers to uphold their independence and their culture? The "glory that was Greece" is gone and, like Troy and Babylon, is little more than "a memory and a mound." May I digress a moment and cite a little history. Throughout the ancient world, the slave, the laborer, the petty tradesman, the mechanic, and the foreign mercenary, relied upon by those in power to hew their wood, draw their water, minister to their other needs, and even to fight their battles for them, used no abortive instrument, oxytocic or contraceptive on their women. They were perhaps too religious, too poor, or too ignorant, to utilize the modern conveniences of the powerful, the rich and the knowing, and so Time, the impartial, who knows no caste, rolled them into power by very force of numbers, and Fate, the inexorable, by force of ignorance and low ideals swept a glorious civilization from the earth. I wish to make it entirely clear that this well-known historical denouement is not cited here to line the doctors up against birth control propaganda, for I do not consider Hippocrates' admonition against abortifacients to extend to contraceptive measures. However, it is well to be reminded from time to time whither selfishness, love of ease, hypocrisy, prejudice, and unenlightened conservatism leads.

The Prophet.—The true physician through the ages, to his eternal honor, be it said, in the face of public complaisance and indifference, has held tenaciously to the social principle underlying the admonition that forbids the criminal operation. His voice should continue to

be unmistakably heard against the tendency of women in every decadent society to shirk the obligation of motherhood, since the child is the factor that binds the home together, and the home is the bulwark of the state. There is not now the need for the inordinate numbers of people demanded by the insatiate appetite of war, but enough strong men of good heredity are still needed, not alone for the armies of peace in industry and commerce, but wise men for its schools and its government. Quality, not quantity, may well be the slogan of the progressive state. The present unbalanced state of affairs in the domain of genetics is manifestly not tending to a high qualitative standard.

I point no moral, and urge no specific remedy. I simply state the case. Responsibility for conditions as they are is certainly not on the doctor's shoulders. However, as an enlightened, unprejudiced observer and student he should be prepared to warn and advise as opportunity occurs that his skirts may remain clear.

The Savior.—The next paragraph of the Oath expresses the judgment that the conscience of the doctor should be religious in its sensitiveness.

"With purity and with holiness I will pass my life and practice my art. I will not cut a person suffering with stone, but will leave this to be done by practitioners of this work."

In Hippocrates' day operation for stone in the bladder was a major operation, and specialists had been developed in the art of performing it. The safety of the patient demanded at the doctor's hands the best service obtainable, and the general practitioner could not give such service. The skillful though unlettered *urologist* of that time was better than the best doctor, and to him must the patient be taken. The situation in essence is or should be the same today. For a general practitioner or surgeon with insufficient equipment and assistance to perform a major operation on a patient when a well-qualified surgeon with hospital facilities is readily obtainable subjects a trusting patron to risks which no doctor would in similar circumstances submit himself or any member of his household. Unworthy considerations alone will inspire such conduct. The good of the patient always is the aim of the true physician, and conscious harm or undue risks to him anathema. Hippocrates implies in the

opening sentence of the foregoing paragraph that to act on any other principle is neither pure nor holy.

The Benefactor.—"Into whatever homes I enter I will go into them for the benefit of the sick and will abstain from every voluntary act of mischief and corruption, and further from the seduction of males or females of freemen or slaves." This is the reiteration of what Hippocrates deemed the most important obligation to impose upon future medical aspirants. The opportunity for mischief and corruption would be greater to them than befalls other men, and hence a greater necessity for safeguarding conduct. Purity of motive, honor, clean and unchallengeable must be the bedrock underlying the character of the man to whom the secrets of many hearts are laid bare, and Hippocrates apparently for fear generalization might not serve specifies the leading away into immorality and disloyalty of those whose confidence he has won as a peculiarly heinous offense. In the light of impressions created by literature of the period of Grecian history in which the Oath was promulgated the above precept is little short of astounding. It should be a great matter of pride to physicians that the founder of their Art held purity of life and the highest standards of personal conduct towards the humble as well as the great as the guiding principles of his life half a millenium before the dawn of Christianity. A lowering of this standard by physicians of today is, therefore, not only disloyal to their Art but to the Christian ethic to which most of them adhere.

The Gentleman.—"Whatever, in connection with my professional practice or not in connection with it, I may see in the lives of men that should not be spoken abroad. I will not divulge as reckoning that all such should be kept secret." In the minds of most medical men this paragraph looms large, and well it may, for adherence to the secrecy there enjoined has done as much to commend the medical profession to public confidence as any skill ever exhibited by it. A loose tongued doctor is an anachronism. The things he sees and hears are as sacred from the world as the confidential matters occurring within his own family circle. So far as I can learn this part of the Oath is the earliest recorded expression of the principle of *noblesse oblige*, the fundamental precept in the code of the gentleman. The obligation

thus enjoined, you will note, is not confined to the doctor's practice, but is applied as a general rule of conduct in all circumstances. The doctor is not to gossip about his patients, of course, but he is not to gossip about anybody else. Private details about the lives of men and women that may possibly wound character or injure another man's self-esteem must not be spoken abroad. To his everlasting credit the doctor in the main has kept this pledge inviolate. Some have even bent backward in their interpretation of it, and in doing so have failed to appreciate a major consideration.

The Citizen.—"If there is one thing clearer in the writings of Hippocrates than consideration for the individual it is the sense of community obligation there apparent. This regard for the good of the community is completely negatived when the pledge to silence in the Oath is interpreted in such a manner as to serve to shield a careless unsocial gonorrhoeic or syphilitic or any other person suffering from a dangerous infectious disease from regulation by public health authority. When silence under such circumstances is observed consideration for the individual becomes treason to society. To use Hippocrates' words as a warrant for such conduct is to fail to appreciate in essential degree the tenor of his life and works. He despised ignorance and quackery and everything that savored of disgraceful practice. The first paragraph of the Law of Medicine as written by him reads thus: "Medicine is of all arts the most noble, but owing to the ignorance of many who practice it, and of those who inconsiderately form a judgment of them, it is at present behind the other arts. There is apparently no punishment connected with the practice of medicine but disgrace, and disgrace does not hurt those who are familiar with it." Hippocrates felt in that early time, as many thoughtful students of affairs feel today, that no man can be a high type doctor or true man in any Art, profession or business, and at the same time be a bad citizen. The outcome anticipated by adherence to the Oath was to be the respect of all men, an utterly impossible contingency if public obligation was to be neglected.

The Goal.—"While I keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the Art respected by all men in all times, but should I trespass and

violate this Oath may the reverse be my lot."

The respect of all men has been in peculiar degree the possession of the true doctor throughout the ages, and that respect and veneration has not been simply because of his service, but more definitely because of him, his principles, his character, and his attitude in the stresses that befall, the personality indeed that stamps him as one that can be counted on through "thick and thin" to stand by whatever the emergency.

This transcendent possession glorified the doctor of the old school, and was the product of the spirit of the Oath transfused into every properly taught physician. That this spirit shall continue to be instilled into each succeeding generation of medical men is the responsibility of every doctor who understands the sacred nature of his calling.

In this feverish time when changing conditions affecting every division of human endeavor force revolutionary adjustments upon every business, profession and trade, the doctor would do well to realize fully the quality of the foundation on which he stands and that though the application of scientific research urged upon his followers by Hippocrates has resulted in establishing his calling as a scientific profession, the true physician is still the exponent of a noble art, and as such should exemplify the words and works of the Father of Medicine in the spirit of his noblest sentiments and aspirations.

TYPHOID FEVER FROM THE STAND- POINT OF PUBLIC HEALTH.

By SIDNEY J. TABOR, M. D., Portsmouth, Va.

Typhoid fever is an acute, specific, infectious disease, due to the bacillus Typhosus and characterized by fever lasting about four weeks, accompanied with diarrhea and the appearance of rose-colored spots over the abdomen and other parts of the body. The disease varies greatly, from mild, characterized as "walking typhoid," to severe attacks lasting from four to five weeks and in some cases to a fatal termination. The parts infected are the intestinal tract, gall-bladder and ducts, spleen and kidneys. The glandular structures of the bowel are the places of greatest intensity, while the gall-bladder serves as a reservoir or foci for the multiplicity of the organism. The mouth serves as the only portal of entry and, as the disease infects the in-

testinal tract, it passes through the mucosa, infecting the blood and lymph. The appearance of the organism in the blood occurs during the first week of the disease and a leucopenia develops about the second week of the disease. Leucocytosis indicates some serious inflammatory condition such as intestinal perforation.

Typhoid fever has a world-wide distribution, endemic everywhere, epidemics varying from mild sporadic cases in local areas to severe and violent epidemics affecting the whole population, resulting in a high mortality rate. The period of incubation varies from ten to fourteen days, the extremes being three to forty days. The violence of the disease giving a shorter period of incubation, while the mild form gives a longer period of incubation. The disease is more prevalent during the months of July to October, due to people attending health resorts, bathing beaches and other resorts where they are more exposed to infection. Typhoid is now more prevalent in small towns and isolated sections where sanitation is at a low ebb, and water and food supplies are from an unprotected source.

There is more typhoid in the Southern than in the Northern states, due to the temperature, rural conditions and negro population. Typhoid fever has no respect for persons, but attacks all classes, rich or poor, young or old, white or black, and an epidemic may occur at a period of the greatest economical value.

Fatality from this disease varies greatly, ranging from 5 to 12 per cent in private practice to 7 to 20 in hospital cases. From the standpoint of preventive medicine, an outbreak of typhoid fever is usually regarded as a reproach to the sanitary conditions of the community where it occurs. This indictment should not always be the case as the source of infection may come from a foreign source. The prevalence of typhoid fever has been reduced during the past three decades from fourth place to a low place among communicable diseases. During the year of 1900 the death rate per one hundred thousand population in the registration area of the United States was 31.3 per cent while that for the year of 1923 was 3.6 per cent. This decline has all been brought about by improvement in prophylactic measures, such as chlorination and protection of water supplies, careful supervision of milk and other food supplies by vaccination and educating the public to observe a

more careful personal and domestic hygiene. The early history of typhoid gives evidence of confusion during the past centuries with other intestinal diseases and particularly with typhus fever, and it was not until 1829 that a French clinician gave the name "Typhoid" to distinguish it from typhus fever.

The control and prevention of typhoid fever is a problem vital to every person doing health work, but at times situations will develop that will tax the ability of anyone doing this work. In order that the disease might be placed under control, proper measures should be taken to eliminate the source of infection. As the source of the disease is the human being, we should start there to get rid of the infection.

The problem then is to locate the human source. There are always two classes of persons carrying this disease—the clinical case and the carrier, and the latter can be divided into two classes, the normal carrier and the convalescent carrier. The convalescent carrier is one recovering from an attack of typhoid, and within a few weeks or months will fully recover with the exception that 2 or 3 per cent will remain chronic carriers and will continue to discharge typhoid bacilli with the excreta. The normal carrier constitutes the latter type, and the source of infection nearly always comes from an infected gall-bladder or the glomeruli of the kidneys which serve as a focus of infection and a reservoir for the multiplicity of the organisms. It is important to note that women furnish the greater number of adult carriers, and children serve as carriers more than adults, but children recover more readily than adults and offer fewer chronic carriers.

The clinical case should be moved to the hospital for treatment and, if it is not practicable to do this, a trained attendant should have charge of the case and a doctor should be in close attendance. All excreta should be destroyed or disinfected at once. Patient's body should be bathed in strong antiseptic solutions, all food remaining after serving patient should be boiled or disinfected, all cups, knives, spoons, forks, and dishes should be placed in boiling water or strong disinfectant solution after use. Flies should be excluded from the sickroom and premises. The nurse should be the only attendant and she should exercise great care in personal cleanliness. Cats, dogs, and all other pets should be kept away from premises. All

contacts should be vaccinated at once and kept under close surveillance, and not allowed to handle any food supplies. The problem of typhoid carriers is always a difficult one and will tax the ability of the health officer. Both chronic and convalescent carrier should be kept under close surveillance or, better still, be placed under quarantine and not allowed to handle any food products and, if possible, should be under constant treatment until cured.

In arranging a brief summary of the sources and common routes of transmission of typhoid fever, we have described a vicious circle, beginning with the case and carrier, feces and urine—flies, fingers, fomites, soil and sewerage—to water, food and milk, terminating in mouth case and carrier.

37 Afton Parkway.

Proceedings of Societies

The Mid-Tidewater Medical Society

Held its regular quarterly meeting at Chesapeake Camp in Gloucester as guests of Dr. Blair Spencer and the physicians of Gloucester County, on October 10th. There were twenty members of the society present, five visiting physicians and several other guests. All hands went aboard Camp Chesapeake sailing yacht at 11 A. M. and sailed out of Ware River into Mobjack Bay and out into the Chesapeake Bay to enjoy the salt air and the excellent dinner tendered by the hosts.

The program consisted of talks by Dr. F. S. Johns, Richmond, on Treatment of Infections of the Arm, Hand, and Tendons, from Standpoint of the Surgeon. His remarks were followed by a general discussion led by Dr. E. L. W. Ferry. Dr. J. Morrison Hutcheson, Richmond, gave a splendid discussion of Some Heart Irregularities, and answered numerous inquiries from the physicians. The other guests Dr. Dean Cole, Dr. J. McCaw Tompkins, and Dr. W. W. Rixey, all of Richmond, added interest to the discussions. The whole program was of a practical nature and very helpful.

The report of the nominating committee was received and adopted by unanimous vote. The result was as follows: President, Dr. William Gwathmey, Rurak; President-Elect, Dr. R. D. Bates, Newtown; Treasurer, Dr. James D. Clements, Ordinary; Secretary, Dr. M. H.

Harris, West Point; Vice-Presidents, *New Kent*, Dr. J. R. Parker, Providence Forge; *King William*, Dr. William E. Croxton, West Point; *King and Queen*, Dr. T. B. Latane, Stevensville; *Middlesex*, Dr. Virgil Stiff, Harmony Grove; *Essex*, Dr. J. N. DeShazo, Center Cross; *Mathews*, Dr. E. T. Sandberg, Mathews; *Gloucester*, Dr. Blair Spencer, Gloucester; *York*, Dr. L. O. Powell, Seaford.

The next meeting will be held at West Point, Va., on the fourth Tuesday in January, 1931.

M. H. HARRIS, *Secretary*.

The Mecklenburg County Medical Society

Held its regular meeting at Clarksville, Va., September 23rd, after a splendid supper which was served by the profession of that place. Fourteen of the nineteen physicians of the county were present, besides Drs. Dean Cole and F. S. Johns, Richmond, and Dr. Wright Clarkson, Petersburg. Interesting papers were presented by the visiting physicians and by Drs. L. H. Hoover and B. S. Yancey of the local society.

The following officers were elected for 1931: President, Dr. L. H. Hoover, Clarksville; vice-president, Dr. G. H. Carter, Boydton; secretary-treasurer, Dr. A. T. Finch (re-elected), Chase City.

The Fauquier County Medical Society

Was entertained on September 25th by Dr. John T. Sprague, Dr. Prentiss Bailey, and Dr. M. B. Hiden, at "Dunworth," the private sanatorium of Dr. Sprague near Warrenton. There was an attendance of sixty-two with Dr. Wade C. Payne, president, presiding. Dr. J. E. Knight, councilor of the Medical Society of Virginia from the Eighth District, in an excellent talk, urged the members to attend the meeting of the State Society in Norfolk. This was discussed by Drs. Simpson, Gibson, and Hiden. Interesting papers were presented by Drs. M. B. Hiden, Richard Mason, John A. Gibson, W. G. Trow, and W. O. Bailey. The typhoid fever situation was discussed by several of the doctors. Mrs. A. M. Randolph, chairman of the local Crippled Children's Committee, told of the work her committee had done and what they hoped to accomplish in the future.

After the meeting adjourned, a delightful supper was served by Dr. and Mrs. Sprague.

The Southwestern Virginia Medical Society

Held its regular semi-annual meeting in

Christiansburg, Va., September 23rd and 24th, under the presidency of Dr. J. Coleman Motley, Abingdon. An interesting program was carried out and six doctors were admitted to membership. The following were elected officers for the ensuing year: President, Dr. E. G. Gill, Roanoke, who has served most efficiently as secretary for a number of years; vice-president, Dr. E. M. Chitwood, Wytheville; and secretary-treasurer, Dr. A. M. Showalter, Christiansburg. The date and place of next meeting will be named later.

The Nelson County Medical Society

Met at Lovingsston, Va., July 28th. The following officers were elected for the year: President, Dr. B. F. Randolph, Arrington; Vice-President, Dr. F. M. Horsley, Arrington; Secretary-Treasurer, Dr. J. F. Thaxton, Tye River. Dr. D. C. Wills, Arrington, was elected delegate to the State Society meeting in Norfolk, and Dr. F. M. Horsley, Arrington, alternate. After discussing some matters of minor importance, the meeting adjourned.

This society is scheduled to meet on the fourth Mondays in January, May, July, and November of each year.

J. F. THAXTON, *Sec.-Treas.*

The Roanoke Academy of Medicine,

At its first Fall meeting for 1930-31, elected the following officers for the ensuing year: President, Dr. John O. Boyd, Roanoke; first vice-president, Dr. L. G. Richards, Roanoke; second vice-president, Dr. J. B. Nicholls, Catawba Sanatorium; and secretary-treasurer, Dr. Churchill Robertson, Roanoke.

The Clinch Valley Medical Society

Held its semi-annual meeting, September 20th, at Norton, Va., with Dr. J. B. Wolfe, president, presiding. The program of this meeting was under the auspices of the Department of Clinical Education of the Medical Society of Virginia. Excellent talks were given by Drs. H. H. Ware, Jr., St. Geo. T. Grinnan, Ennion G. Williams, Manfred Call, and Charles R. Robins, all of Richmond.

The following officers were elected: President, Dr. N. W. Stallard, Dungannon; vice-presidents, Dr. J. H. Hagy, Imboden, and Dr. Frank Pyott, Tip Top; secretary, Dr. C. B. Bowyer (re-elected), Stonega. The next meeting will be held at Lebanon, Va., in the spring of 1931.



J. ALLISON HODGES, M. D.
President, Medical Society of Virginia



President's Message

TO THE MEMBERS:

In accepting your call to service, it is my honor and obligation to obey your summons, and do the best I can for the promotion of our professional ideals and the progress of our Society.

As your representative, I cannot do this adequately without your consideration and co-operation. Many of you are as capable as any of your officials, and you, likewise, must give of your time and talent, if our Society is to grow in numbers and in usefulness to its members.

In this spirit of mutual service, I request your aid and advice, for the officers of any organization are only the guides and guardians of its successful activities.

In this section during the coming year, others will be requested to aid in enlarging our vision and blazing our way to greater and better professional achievement. Topics of interest to the Society, and to the profession generally will be discussed monthly, and the aid of the Councilors and of other interested members will be solicited. The endeavor will be to encourage and stimulate methods of improvement in the Society's administration of its various activities, and also to solicit a mutual interchange of opinion on matters relating to professional betterment.

Truslow Adams says: "One makes one's own mistakes, and one succeeds only with the help of one's fellows."

In years, our Society is threescore old, but in vigor, it is young, "rejoicing as a strong man to run a race."

To the vigor of youth, we have the added wisdom of age—a happy combination that is a harbinger to us for still further success.

In brief, the future of our Society is of our making, for we are not alone its architects, but its master builders.

During the past year, our Society, under the administration of Dr. Charles R. Grandy, President, has made notable advancement. Probably, the most constructive and continuous work has been in initiating new methods for carrying the constantly developing advances in modern medicine to the members generally in their own home communities.

It is expected and confidently believed that the ensuing year will enlarge and perfect this work.

At present, arrangements are being made for the Department of Clinical Education to extend its work by keeping on hand for distribution, for the use of the constituent societies, a number of films covering many interesting and important diseases and surgical procedures, and it is urgently requested that these will be used frequently. But little cost will be attached to this arrangement, for this Department expects only an educational profit.

In addition to the Visual Instruction Films mentioned under the Department of Clinical Education elsewhere in this issue, other films and medical motion pictures, furnished principally by the Eastman Kodak Company, some of which will be of most unusual interest to the practicing physician, will be available.

If possible, County Medical Societies and medical groups should use some of them though they are more costly than the Visual films.

In future issues on this page, matters relating only to Medicine and the Profession will be considered.

A medical questionnaire is now being prepared to send to two doctors and two surgeons in different sectional areas of the state to ascertain the medical and surgical diseases which at this time are apparently on the increase, and now threatening the health of the people. When replies are received, the Editor of the MONTHLY will be requested to discuss these briefly, or have some member of his staff do so, devoting particular attention to the etiology, prodromal and clinical symptoms, etc, together with means for prevention, when practicable.

It is also hoped that any interested member will join in the symposium, giving in the MONTHLY his ideas and methods of relief, for different viewpoints add to the sum of general information on any subject.

Later, similar methods along other lines will be developed.

By taking part in such work, we can thus serve our patients, and advance our professional knowledge.

J. ALLISON HODGES, M. D.,
President.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Continuation Education for Practitioners.

In the last issue under this Section, it was stated that the newly elected President-Elect, as Chairman of this Department, together with the other members of the Department of Clinical Education, would at this time assume charge of its activities, both editorial and business, but it has developed that the annual meeting for election of officers for the Society will not be held until after this issue has to go to press this month.

Accordingly, the retiring officials of this Department now offer their farewell and their greeting; a farewell with thanks and appreciation to the members who have so willingly and generously aided them during the past year, and a greeting with goodwill and enthusiasm to those who are to conduct the affairs of this Department for the coming year.

The ground has been cleared, the underbrush removed, the soil fallowed, and the proper seed planted, but the harvest is yet to be garnered, and in this lies the incentive to work and to reap, for the opportunity is vast and the reward certain.

The retiring officials have simply blazed the way, and their only objective this year has been to make the Department of Clinical Education pay an educational profit to the general profession of the State.

It is believed that it has done this, and more, for already it has lighted anew the fires of professional enthusiasm and scientific research, and the future for Continued Education after graduation in the advances of modern medicine is brightening as this interest increases.

This is a vital necessity for all professional men in this day of change and advancement, and this Department will always be willing to do its part towards this end.

The work of the past year has been as inspiring to the promoters, as it is believed it has been beneficial to those who have cooperated.

The number of special meetings, as scheduled, in various sections of the State have been held in conjunction with this Department this year, and all have expressed a desire to continue this affiliated work for the general good of the profession, and a number of other local groups have agreed to cooperate in the future.

The entire purpose in the work has been to aid, as requested, the local Societies or groups in any way desired, by providing designated lecturers in addition to the local speakers, or otherwise in helping to arrange the programs.

There has been no additional cost to any sponsoring group, the idea being simply to aid and enlarge the sphere of usefulness of the local profession.

In various other ways, also, this Department has aided the profession and its individual members during this year, and now for the coming year, it has but one major request, and that is, that even more of the constituent member societies and local groups shall seek its cooperation.

It is well known that, generally speaking, there is a multiplicity of medical meetings, but it is also confidently believed that some of these might occasionally and temporarily be amalgamated in special meetings, with benefit to all concerned, and it is hoped that during the coming year, at least each one of the Councilor districts may hold an afternoon and evening scientific-clinical meeting at some central point in the district.

This would be stimulating and educative, as well as serving for a better acquaintance and fuller fellowship—why not try it out?

Our Society must grow in membership, and its members must grow in education.

Scheduled Meetings.

—On November 18th, the Post-Graduate Medical Society of Southern Virginia will hold its 14th regular meeting at Piedmont Sanatorium, Burkeville, Va., at 3 P. M. Dr. Venable is Medical Director.

This Society, the successor of the old and distinguished Dinwiddie County Society, comprising the counties of Nottoway, Dinwiddie, Prince George, Brunswick, Greenville, Surry, and Sussex, has an unusually enthusiastic and capable membership, and its members are doing highly satisfactory work.

The Session, to be held as scheduled above, will be a rather unusual meeting, and visiting physicians will have the opportunity of witnessing the actual, practical work being done for tubercular patients, and it is confidently believed that the initial opening of this Insti-

tution to the general profession on this occasion, will be one of great interest and scientific benefit.

The program will be as follows:

SYMPOSIUM ON TUBERCULOSIS

The Diagnosis of Minimal Tuberculosis,

F. J. Wright, M. D., Petersburg

Tuberculosis in Infancy and Childhood,

W. B. McIlwaine, M. D., Petersburg

X-Ray Film Demonstration of Pneumothorax, Phrenectomy and Other Lung Conditions,

J. A. Proffitt, M. D., Burkeville

Differential Diagnosis of Chest Disease,

Dean B. Cole, M. D., Richmond

Discussion-----F. J. Wright, M. D.,
Stabilization of Joints in Tuberculous Infections,

Thomas Wheeldon, M. D., Richmond

The following programs are to be presented by the Norfolk County Medical Society in the near future. Visitors are always welcome and invited to take part in the discussions. Dr. F. D. Wilson is president, and Dr. Lockburn B. Scott, secretary.

—*Monday, November 10th.* SURGICAL CLINIC by Officers of the Marine Hospital, under direction of the Surgeon in Charge, Dr. S. L. Christian.

—*Monday, November 17th.* MEDICAL SECTION. Classification of the Arthropathies, Dr. Maurice J. Miller.

Haemothorax with Reports of Cases, Dr. Mallory S. Andrews.

—*Monday, November 24th.* AN OBSTETRICAL PROGRAM will be provided.

—*Thursday, November 27th.* EYE, EAR, NOSE AND THROAT SECTION. The Anatomy and Physiology of the Labyrinth, Dr. Joseph S. Hume.

Recent Meetings.

—*On September 30th*, on the occasion of the dedication of the new Medical Arts Building in Petersburg, the Post-Graduate Medical Society of Southern Virginia held a most enjoyable and instructive session.

After a complimentary dinner to the attending physicians, Dr. Herbert C. Jones made the speech of welcome, and tendered the building and its equipment to the medical profession of the city.

By request, appropriate responses were made by Dr. J. Allison Hodges and Dr. J. Shelton Horsley, Sr.

After these dedication exercises, there was a scientific program as follows:

7:00 P. M.—Scientific Program.

Advances in Dermatology During Recent Years—
Thomas W. Murrell, M. D., Richmond.

Discussion: E. P. McGavock, M. D., and Wright Clarkson, M. D.

Glaucoma—C. S. Dodd, M. D., Petersburg.

Discussion: D. D. Willcox, M. D., and Meade Edmunds, M. D.

The Conservative Treatment of Eclampsia—A. L. Carson, M. D., Petersburg.

Discussion: J. Bolling Jones, M. D., and H. H. Ware, M. D., *invited guest*.

Diagnosis of the Acute Abdomen—W. A. Reese, M. D., Petersburg.

Discussion: J. A. B. Lowry, M. D., J. Allison Hodges, M. D., I. A. Bigger, M. D., and J. Shelton Horsley, M. D., *invited guests*.

The officers of the Society are: President, Joel Crawford, M. D., First Vice-President, H. G. Stoneham, M. D., Second Vice-President, W. W. Bennett, M. D., Secretary-Treasurer, Philip Jacobson, M. D., and Chairman Steering Committee, Wright Clarkson, M. D.

Board of Censors: T. F. Jarratt, M. D., C. S. Dodd, M. D., W. D. Prince, M. D.

Public Health and Legislation: J. B. Jones, M. D., W. M. Phipps, M. D., L. O. Vaughan, M. D.

—*On October 2nd, 3rd, and 4th*, the sixth in the series of post-graduate clinics conducted by members of the Medical Faculty of the University of Virginia was held at the University Hospital.

The program scheduled was as follows:

Thursday, October 2, 1930.

10:00 A. M.—Dr. D. C. Wilson—Psychiatric Clinic.

11:00 A. M.—Dr. J. H. Neff—Urologic Clinic.

12:00 Noon—Luncheon at University Hospital.

1:30 P. M.—Dr. K. S. Maxcy—Prevention of Typhoid Fever.

2:30 P. M.—Dr. S. D. Blackford—Clinical Aspects and Treatment of Typhoid Fever.

Evening Program, 8:00 P. M.—Open Discussion. Topics to be submitted by guests.

Friday, October 3, 1930.

9:00 A. M.—Dr. E. C. Hamblen—Obstetric Clinic.

10:00 A. M.—Dr. J. Edwin Wood, Jr.—The Treatment of High Blood Pressure.

11:00 A. M.—Dr. L. T. Royster—Vomiting as a Symptom of Infancy and Childhood.

12:00 Noon—Luncheon at University Hospital.

1:30 P. M.—Dr. W. H. Goodwin, Surgical Clinic.

2:30 P. M.—Dr. A. F. Voshell—Orthopedic Clinic.

Evening Program—8:00 P. M.—Open Discussion. Topics to be submitted by guests.

Saturday, October 4, 1930.

9:00 A. M.—Dr. Bruce Morton—Traumatic Surgery.

10:00 A. M.—Dr. C. W. Beauchamp—Focal Dental Infection.

11:00 A. M.—Dr. H. S. Hedges—The Eye as a Diagnostic Aid in Systemic Disorders.

Visual Instruction Films.

The following letter from Mr. George W.

Eutsler, Acting Executive Secretary of this Department, explains itself.

It is believed that these films could be used with advantage by a number of the local Medical Societies, and if any of them should be desired, please communicate directly with Mr. Eutsler, P. O. Box 707, University, Va.

His letter is as follows:

"The Bureau of Visual Instruction of the Extension Department has arranged for a number of moving picture films and slides dealing with medical subjects, both for physicians and the public. For instance, these four items were announced in letters received yesterday, September 28th:

'Preliminary Haemostasis in Goiter Surgery.' The de Quervain method explained through actual photography and animated drawings. Produced for Martin Nordland, M. D., F. A. C. S., of Minneapolis.

'Puerperal Infection.' Showing how bacteria are introduced into the uterus during normal labor—illustrated by animated drawings and actual photography. Produced for Daniel Bessesen, M. D.

'Through Life's Windows.' A film prepared by an optical company to educate the public to an appreciation of the benefits of good eye-sight and to a realization of the evils of defective eyesight. A study of the mechanism of the eye is included, the accuracy of which, it is claimed, has been vouched for by Professor Fred A. Woll.

'Light and Lighting.' (Glass slides only). The solution of many difficult lighting problems has been materially assisted by the proper study and analysis of vision. This lecture explains the theory of light and its action on the human eye. Color, practical lighting methods, and the measurement of light are also being considered. Produced by the General Electric Company.

All these materials can be obtained without cost, other than transportation charges from the point of deposit."

Our Thanks.

At the close of this fiscal year, it is a pleasure, as it is a duty, to express our appreciation and thanks to every member who has aided us, and who has requested information or advice of us.

Our thanks, also, are due particularly to the Extension Department of the University of Virginia. Mr. Geo. B. Zehmer, Director, for its valuable assistance during the year, and particularly to Mr. George W. Eutsler, Associate Director, for his most efficient and generous personal services as our Acting Executive Secretary. Without his aid, our scheduled work for the year could not have been accomplished.

Information.

All members of the State Society are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Acting Executive Secretary, Mr. George

W. Eutsler, P. O. Box 707, University, Va., or to Dr. J. A. Hodges, 5 East Franklin Street, Richmond, Va.

Woman's Auxiliary, to the Medical Society of Va.

The New President.

It seems very fitting that the president of the Woman's Auxiliary, Mrs. J. Allison Hodges, Richmond, should be the wife of the president of the Medical Society of Virginia, for their interests will be mutual.

Mrs. Hodges was formerly Miss Mary Scales Gray, of Greensboro, N. C., a granddaughter of Ex-Governor Scales of that State, from whom she evidently inherits a large amount of executive ability. Dr. and Mrs. Hodges moved to Richmond in the nineties, since which time they have both been most active in the professional as well as the social life of this State.

When the "Auxiliary idea" was started several years ago, Mrs. Hodges and Mrs. Southgate Leigh, of Norfolk, who attended the meetings of the American Medical Association with their husbands, brought back the message to Virginia and were the organizers of the movement in this State. Mrs. Hodges was previously offered the presidency of the Auxiliary in Virginia, but, owing to other duties was unable to accept. However, when the emergency arose after the death of Mrs. E. J. Nixon, president-elect, Mrs. Hodges accepted that position. She was made president-elect to the National Auxiliary at the San Francisco meeting of the American Medical Association, but later resigned this position on account of the illness of Dr. Hodges, the following winter.

A full report of the Auxiliary meeting in Norfolk will appear in the December issue of the MONTHLY. The ladies were royally entertained by the Woman's Auxiliary to the Norfolk County Medical Society, which is the banner auxiliary of this State, numbering about 150 members.

Of especial interest at this meeting was the address by Mrs. J. Newton Hunsberger, of Norristown, Pa., president of the Woman's Auxiliary to the American Medical Association.

The Truth About Medicine

In addition to the articles enumerated in our letter of August 29th, the following have been accepted:

Eli Lilly & Co.

Amytal.

Pulvules Sodium Amytal, 3 grains.

Old Tuberculin, Human Strain, Concentrated, 2 vial packages.

McKesson & Robbins, Inc.

McKesson's Vitamin Concentrate of Cod Liver Oil.

E. S. Miller Laboratories, Inc.

Ampoule Sterile Solution Dextrose, U. S. P., 5 Gm., 10 c.c.

Ampoule Sterile Solution Dextrose, U. S. P., 10 Gm., 20 c.c.

Plant Products Co.

Plant's Magnesia Wafers.

The following articles have been exempted and included with the List of Exempted Medicinal Articles (New and Non-official Remedies, 1930, p. 477): H. K. Mulford Co.

Pollen Extracts Diagnostic—Mulford.

NEW AND NON-OFFICIAL REMEDIES

Tablets Theocin 1½ grains.—Each tablet contains theocin (New and Non-official Remedies, 1930, p. 415), 1½ grains. Winthrop Chemical Co., Inc., New York.

Ampules Mercurochrome.—H. W. & D., 1%, 10 c.c.—An aqueous 1 per cent solution of mercurochrome—220 soluble (New and Non-official Remedies, 1930, p. 271) stabilized with ammonium hydroxide; in 10 c.c. ampules. G. D. Searle & Co., Inc., Chicago.

Ampules Mercurochrome.—H. W. & D., 1%, 20 c.c.—An aqueous 1 per cent solution of mercurochrome—220 soluble (New and Non-official Remedies, 1930, p. 271) stabilized with ammonium hydroxide; in 20 c.c. ampules. G. D. Searle & Co., Inc., Chicago. (Jour. A. M. A., August 2, 1930, p. 343).

Diphtheria Toxoid—Cutter—Diphtheria Toxoid—Cutter (New and Non-official Remedies, 1930, p. 485) is also marketed in packages of one 45 c.c. vial. Cutter Laboratory, Berkeley, Calif.

Synthetic Thyroxine.—It contains not less than 65 per cent of iodine. It has the actions and uses of thyroxine, U. S. P. (New and Non-official Remedies, 1930, p. 403). Synthetic thyroxine is supplied in the form of ampules containing 1.1 c.c. of solution containing 1 mg., and in the form of a solution, each c.c. containing 2 mg., and in tablets containing 1 mg. Hoffmann-La Roche, Inc., Nutley, N. J. (Jour. A. M. A., August 16, 1930, p. 485).

Antimeningococcic Serum.—Antimeningococcic serum (New and Non-official Remedies, 1930, p. 350), marketed in packages of two 15 c.c. syringes with apparatus for intraspinal injection; in packages of one 50 c.c. double-ended vial with apparatus for intraspinal injection. National Drug Co., Philadelphia.

Mecurochrome Suppository—Aces. Suppositories representing a 2 per cent solution of mercurochrome—220 soluble (New and Non-official Remedies, 1930, p. 271), in a slightly aromatized, hydro-glycero-gelatin base; each suppository weighs approximately 6.5 Gm. (100 grains). Aces Laboratory, Inc., Brooklyn, N. Y. (Jour. A. M. A., August 23, 1930, p. 594).

White's Cod Liver Oil Concentrate.—A cod liver oil concentrate in the form of tablets (wafers), each containing not less than 250 vitamin A units and not less than 100 vitamin D units. White's cod liver oil concentrate possesses properties similar to

those of cod liver oil so far as these depend on the fat soluble vitamin content of the latter. White Laboratories, Inc., Gloucester, Mass. (Jour. A. M. A., August 30, 1930, p. 663).

PROPAGANDA FOR REFORM

The Ambruster Ergot Situation—During recent years, one Howard W. Ambruster has conducted a campaign against the Food and Drug Administration of the United States Department of Agriculture and against the officials of the American Medical Association. In his campaign, Mr. Ambruster has alleged repeatedly that there exists a conspiracy between the government department and the American Medical Association to approve substandard drugs, particularly ergot. Mr. Ambruster is in the ergot business. Such investigations as have been made prove that the charges of Mr. Ambruster are entirely without foundation. The vast majority of the ergot on the market is dependable and there has been no increase in deaths from puerperal hemorrhage. The government department attacked seems to have been operating with exceptional efficiency. (Jour. A. M. A., September 6, 1930, p. 730).

Ephedrine and Habit Formation—An article appeared in a recent issue of the *Ladies' Home Journal*, in which it was stated that ma huang is closely related to coca and that it is as dangerous as the narcotics of the coca group. It stated: "Ma huang . . . has cocaine's effects—it is exhilarating, habit forming, deadly." Chen and Schmidt, in a recent monograph, "Ephedrine and Related Substances," state that investigators appear to agree that the prolonged use of ephedrine does not have any cumulative harmful effects and does not result in habit formation. In New and Non-official Remedies no reference is made to habit-forming properties of the drug. A search of the *Quarterly Cumulative Index Medicus* fails to reveal published articles on ephedrine as a habit forming drug. Though it is known that the actions of ephedrine on the central nervous system resemble considerably those of cocaine, it is not believed that these are sufficiently pleasant to be a temptation; certainly the effects cannot be at all serious, or they would have become apparent before this. In a recently published report of the effects of ephedrine on animals it is stated that in humans after prolonged use against asthma, it produced euphoria, and there are reports where the drug had to be discontinued on account of unpleasant stimulation. The absence of clinical reports of addiction does not substantiate the careless references of popular writers to habit formation. The available evidence indicates that there is little if any danger of ephedrine becoming a serious habit-former. (Jour. A. M. A., September 6, 1930, p. 731).

The Management of Opium Addiction.—Many of the so-called specific cures have been given fair trial by critically minded observers, but the results have been consistently unconvincing. This applies to rationally conceived proposals as well as to exploited products like "Narcosan" or the alleged secret Kahle treatment discussed in the German medical press. The conclusion of a British reviewer seems to be justified that it is now realized more thoroughly than ever before that the major problem is not to free the addict from his drug but to keep him free. Morphine addiction is not characterized by physical deterioration or impairment of physical fitness. Herein lies the hope that rehabilitation by any process may be satisfactory so far as the physiologic functions are concerned. The mental and psychologic problems are not yet so easily disposed

of. Relapse is common to all methods of treatment and the question as to whether the withdrawal of the alkaloid should be gradual rather than abrupt may be discussed in the light of many reports. British opinion, with a few notable exceptions, seems to be in favor of a reduction treatment as the routine method of cure. (Jour. A. M. A., September 13, 1930, p 801).

The Galvano Necklace Fraud.—On July 11, 1916, one branch of the United States government—the Patent Office—issued a patent on a preposterous piece of unscientific hokum, on the ground that it was a “new and useful improvement in appliances for treating goiter.” On August 14, 1930, another branch of the government—the Post Office Department—declared the same device worthless and its method of exploitation a fraud and debarred it from the mails. The device was known as the “Galvano Necklace” or “Galvano Goiter Appliance”; it was sold by the Cosmas Pharmacal Co. of Watertown, Wis. The Galvano Necklace consists of glass beads between which are placed alternately small zinc and copper discs. Both the discs and beads are strung on a piece of fine wire. The alleged purpose of the “invention” is that of “generating galvanic currents in contact with the skin in the presence of mercurous iodide and calcium chloride.” With the necklace came an ointment containing mercurous iodide and calcium chloride, which was to be applied to the skin of the neck, and the necklace then hung so that that part carrying the zinc and copper discs would come in contact with the anointed skin. In addition to the necklace the Cosmas Co. has been sending out, in addition to the “ointment,” $\frac{1}{2}$ grain potassium iodide tablets. The danger of allowing people with hyperthyroidism to dose themselves with potassium iodide unknowingly, is not obvious to the public, although it is to physicians. When the necklace was tested in the Bureau of Standards it failed to disclose any electric current. A fraud order was issued by the Postmaster General against the Cosmas Pharmacal Co., W. Werner, and their officers and agents, as such. (Jour. A. M. A., September 20, 1930, p. 882).

Ergotamine Tartrate.—The value of ergotamine tartrate in the treatment of migraine has not as yet been fully established. Recently good results have been reported from its use. A knowledge of the action of the drug makes it easy to understand why the drug may help in some cases and more frequently fail to relieve. The drug is unfit for prolonged use, because it may lead to gangrene and other symptoms of ergotism. According to New and Non-official Remedies, ergotamine tartrate is marketed under the name “Gynergen” by the Sandoz Chemical Works. (Jour. A. M. A., January 11, 1930, p. 126).

Effects of Cinchophen.—Purpuric, urticarial, or scarlatini-form eruptions have been reported by many observers following the administration of cinchophen. They may occur with or without edema. Gastro-intestinal disturbances, from epigastric discomfort to acid eructations and heartburn, are the commonest expression of intolerance to cinchophen. These may be avoided by the giving of an abundance of water with the drug, and 1 Gm. of sodium bicarbonate, though the latter should be given separately and not mixed with the drug. By using neo-cinchophen, one may avoid usually the symptoms of gastric irritation. Sometimes cardiovascular disturbances have been noted. By far the most serious results of cinchophen intoxication result from injury to the liver, which may even go on to a fatal

acute yellow atrophy. (Jour. A. M. A., January 25, 1930, p. 283).

Medical Treatment of Cataract.—About every five years, the ophthalmic world is thrilled by the announcement of a new medical cure for senile cataract. This has been going on for at least two hundred years. Boric acid and glycerin, ethylmorphine hydrochloride, subconjunctival injections of mercuric cyanide, radium, antigenic injections of lens proteins, mixed endocrine glands, sodium iodide in all possible combinations, and so on have all had a trial. Not one of them has been scientifically established as of value and more cataracts are being operated on than ever before. (Jour. A. M. A., December 14, 1929, p. 1910.)

Bichloridol.—Bichloridol is a proprietary preparation of corrosive mercuric chloride suspended in a “palmitin” base, intended for intramuscular administration. It is sold in compressible ampules called collapsules. This preparation was formerly marketed by the H. A. Metz Laboratories, Inc., but is now marketed by the Duke Laboratories, Inc. In 1925 the Council on Pharmacy and Chemistry rejected Bichloridol because it was marketed with indefinite statements of composition and under a nondescriptive name. The A. M. A. Chemical Laboratory reports that it analyzed Bichloridol because of inquiries received, one inquirer writing, “One-half to one grain a week gives practically no reaction and likewise mighty little therapeutic effect.” The laboratory found the preparation to contain only from one-fifth to one-tenth of the mercuric chloride claimed. The laboratory points out that a discrepancy of this magnitude is inexcusable and comments on the desirability of physicians confining their use of proprietary preparations to products accepted for New and Non-official Remedies. (Jour. A. M. A., December 21, 1929, p. 1971.)

The Etiology of Influenza.—I. S. Falk and his colleagues publish a preliminary report of their work on the etiology of influenza which does not go far beyond previous research on influenza. The difficulty in interpreting the results is largely due to the fact that it is difficult to distinguish clinical epidemic influenza from acute respiratory infections in monkeys and, indeed, in man. In 1892 Pfeiffer described an organism as the causative organism of influenza and since that time other allegedly causative organisms have been described. The green producing streptococcus isolated by Mathers and Tunncliffe in 1913, the one isolated by Rosenow in 1919, the filter passing organism described by Meyer in 1919, and the organism discovered by Olitzky and Gates called *Bacterium pneumosintes*, would seem to deserve as much consideration as should be given, at least on the basis of the available evidence, to the germ recently announced by Falk. (Jour. A. M. A., December 28, 1929, p. 2034.)

Excretion of Barbital.—Sir Maurice Craig holds that barbital preparation may be taken for years without producing deleterious effects. This view has received some experimental verification. On the other hand it has been held that in certain conditions—Manic—depressive insanity, constitutional psychopathic inferiority and psychoneuroses—its use may lead to habit formation and that to such patients these drugs should never be administered. (Jour. A. M. A., January 4, 1930, p. 35).

Cod Liver Oil, Viosterol or Sunlight for Rickets.—Cod liver oil, viosterol, and ultraviolet rays are generally accepted as specific agents in the prevention and cure of active rickets in infants. Their relative merits are still under investigation. Cod liver oil contains the valuable vitamin A in addition to vita-

min D. Viosterol is of advantage because of the ease of administration and its concentration. Ultraviolet rays are undoubtedly a valuable therapeutic agent when under controlled supervision. Their effect on general nutrition and resistance as well as on the calcium retention is good. Their use to the exclusion of vitamin D or viosterol seems unwise. A combination seems most desirable when sunshine is not available. (Jour. A. M. A., January 25, 1930, p. 283).

Incorrect Labeling of Upsher Smith Digitalis Preparations.—Tablets Folia-Digitalis (Upsher Smith) 1 grain, Tincture Digitalis (Upsher Smith) and Capsules Folia-Digitalis (Upsher Smith) 1 grain, were exempted by the Council on Pharmacy and Chemistry as having the status of official substances. The Council reports that a committee for the study of the actions of digitalis in patients suffering with pneumonia used tablets of digitalis Upsher Smith and tablets of digitalis of another firm and directed that patients receive these in uniform doses calculated to induce a moderate degree of digitalization, assuming that both specimens of tablets were correctly labeled; that after a total of 253 patients had been treated it was discovered that the tablets of digitalis Upsher Smith induced both severe and minor toxic symptoms far more frequently than those of the other firm, and that an examination of the records brought out that minor toxic symptoms were more than ten times as great in those who received the Upsher Smith tablets as in those who received the other firm's tablets and that the mortality was 49 per cent of all cases of pneumonia treated with the first, as compared with 38 per cent in all those treated with the other tablets. The Council further reports that both brands of tablets were then assayed; that the tablets of the other firm were found to be of activity stated on the label, and those of Upsher Smith to be twice the activity stated. Upsher Smith has assured the Council that any of his misbranded preparations on the market will be called in, and that in the future the greatest care will be taken to insure that the potency of these will be stated correctly. (Jour. A. M. A., April 26, 1930, p. 1305).

Book Announcements

Post-Graduate Medical Education in Virginia. By MR. GEORGE B. ZEHMER, Director, and MR. GEORGE W. EUTSLER, Associate Director of the Extension Department, University of Virginia. *University of Virginia Record Extension Series, Volume XIV, Number 10, April, 1930.*

Mr. Zehmer and Mr. Eutsler have prepared a very interesting treatise on this subject which should be of great interest to Virginia physicians at this time.

The contents include a foreword by Dr. J. Allison Hodges, first chairman of the Department of Clinical Education of the Medical Society of Virginia; A Discussion of Various Plans of Continuing Instruction for the General Practitioner; The Needs and Desires of Virginia Physicians in Respect to Post-Graduate Education, as Revealed in Their Answers to a Questionnaire; A Proposal for a Program

of Post-Graduate Medical Education in Virginia; Exhibits including Agencies in the United States Providing Medical Extension Work for Practicing Physicians; Copy of Letter Submitting Questionnaire; Answers to Questionnaire Arranged to Show a Comparison Between Four Cities and the Rest of the State; Compilation of "Remarks and Suggestions" on Questionnaire; Problems of Graduate Medical Education and Elements of a Practicable Scheme; and Preliminary Report on the Study of the Needs and Opportunities for Post-Graduate Medical Instruction in Virginia; and a Bibliography.

Copy of this book may be obtained without charge, upon application to Extension Department, University, Va.

Medical and Surgical Reports of the Hospital of the Protestant Episcopal Church in Philadelphia. Volume VI. Commemorating the Seventy-fifth Year of the Hospital. Philadelphia. Press of Wm. J. Dornan. 1930. Illustrated. Octavo of 460 pages.

Forty-fifth Annual Report of the Bureau of American Ethnology. To the Secretary of the Smithsonian Institution. 1927-1928. United States Government Printing Office. Washington. 1930. Illustrated. Quarto of 857 pages. For sale by the Superintendent of Documents, Washington, D. C. Price, \$2.35. (Paper covers).

Primer on Fractures. Prepared by the Cooperative Committee on Fractures. Under Auspices of Section on Surgery, General Abdominal and Section on Orthopedic Surgery in Cooperation with Department of Scientific Exhibit of the American Medical Association. 1930. American Medical Association. Chicago. Illustrated. Quarto of 55 pages. Price, \$1.00.

Clio Medica. A Series of Primers on the History of Medicine. IV. *Internal Medicine.* By SIR HUMPHREY ROLLESTON BART, G. C. V. O., K. C. B., M. D., Hon. D. Sc., D. C. L., LL. D., Regius Professor of Physics in the University of Cambridge, England. Paul B. Hoeber, Inc. New York. 1930. 12mo. of 92 pages. Price, \$1.50.

Standards for Maternity Care. Prepared by THE COMMITTEE ON MATERNITY CARE OF THE CHILDREN'S WELFARE FEDERATION AND A COMMITTEE APPOINTED BY THE NEW YORK OBSTETRICAL SOCIETY. Published by The Children's Welfare Federation, 244 Madison Avenue, New York City. 1930. 31-page pamphlet with charts. Copies of the Standards may be secured from the publishers.

The American Red Cross Disaster Relief Handbook. Section 1 of this book deals with general Red Cross Policies, and Section 7 with Medical and Nursing Service. Considerable emphasis is placed on close cooperation with all local agencies concerned with disaster relief problems, particularly the medical profession and health department. Further information with regard to this book may be received from Dr. William DeKleine, The American Red Cross, National Headquarters, Washington, D. C.

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Editorial

The New President of the Medical Society of Virginia.

Dr. J. Allison Hodges, of Richmond, is the president of the Medical Society of Virginia for the ensuing term of a year. The greatest honor that the Association can bestow upon any of its members has been befittingly bestowed upon one who has rendered highly creditable medical service and been a leading spirit in the organized profession of the State.

Within the confines of his native North Carolina, the habitat of his forbears, and his own throughout the years of his youth and early professional life, our new president begun a successful career which came to its full development in his adopted State of Virginia. The physicians of his native State have, no doubt, a feeling of commendable pride in Dr. Hodges' achievements and a feeling of gratification in the wisdom that his confrères in Virginia have shown in promoting him to a position he so well deserves.

As a background and preparation for his life's work he had the advantage of a favorable environment, fine intellectual qualities and aspirations, on which was engrafted a well planned academic education completed at Davidson College in 1879. He graduated in 1881 from the Department of Medicine of the University of Virginia and afterwards did post-graduate work in New York and Europe in order to further equip himself for the successful practice of his profession. After being in general practice, first in Fayetteville and then in Wilmington, for a period of seven years he came to Virginia primarily as a

medical educator. In North Carolina he served as a member of the State Board of Health, associate editor of the *North Carolina Medical Journal*, assistant surgeon general of the State Guard, and other positions of honor and trust, both of a medical and civic character.

Having been elected to the professorship of Anatomy and Nervous Diseases in the University College of Medicine, he moved to Richmond and two years later took over the chair of Nervous and Mental Diseases which he filled until 1914 when the two medical schools in Richmond were merged. He continued for some time in a similar teaching capacity in the reorganized institution. Upon the death of Dr. Hunter McGuire he became president of the University College of Medicine, which position he held for some years.

He established in 1903 the Hygeia Hospital and Sanatorium in his adopted city, an institution which he fully equipped for the specific purpose of advancing diagnostic methods of internal medicine and applying all the modern and approved methods in the treatment of all classes of medical diseases. It was the first hospital of its kind in the south and was operated quite successfully until 1920.

His practice has been in the main devoted to nervous and mental diseases but, after disposing of his sanatorium, all his medical work has been of a consultation nature, keeping up in the meantime an active interest in professional matters. Besides, he does rather extensive life insurance examinations and is medical director of one of the largest Life Insurance companies in this State.

Regarding his relationship to medical organizations, his connection and services have been of a notable nature and especially is this true as to the Medical Society of Virginia and the Tri-State Medical Association. He holds regular membership in numerous medical societies—local, State, regional and national, including Fellowship in the American College of Physicians. He is also an honorary member of the medical association of his native state and of other societies. He has been frequently selected as a representative or delegate to National Associations and Congresses, including the American Medical Association at a meeting in California. In practically all the societies in which he holds membership and in others he has contributed addresses, papers,

and discussion of recognized merit, and otherwise promoted scientific medicine. Having unusual gifts as an eloquent public speaker his services have often been sought by both medical and civic bodies. It is so seldom that a physician possesses oratorical or forensic qualities to the degree that Dr. Hodges does, one is led to the belief that these qualities may have been quickened by his pre-medical preparation for the law.

He was one of the medical group that founded in 1897 the Tri-State Medical Association, embracing Virginia and the Carolinas, for the success of which he has worked earnestly and effectively. Quoting from a medical periodical published in 1917: "The life-long friends of Dr. Hodges felt that it would be a graceful and fitting compliment to him as one of the founders of the Association, as well as a proper recognition of a great career in medicine, to see the Association's highest honor conferred on him." He was the president of the Association in 1918. His home medical Association—The Richmond Academy of Medicine—honored him in 1923 by elevating him to the highest official position in its gift and also electing him to the board of trustees for a term of five years. His administration was characterized by important activities, notably the taking of definite steps looking to a permanent building for the Academy.

No member of the Medical Society of Virginia has shown more interest in and worked more earnestly than has Dr. Hodges for the successful administration and the high quality of scientific service of the Society for the promotion of its influence throughout the State. In the recent reorganization plans of the Society and the further development of affiliated societies, he rendered valuable services and has frequently participated helpfully in their proceedings. In all legislation affecting the science and the practice of medicine in the State he has always been one of the strongest advocates for the most ethical and highest standards.

As a member of the House of Delegates the past two or three years he has been particularly useful to the Society, his most conspicuous service being in connection with the establishment of the Department of Clinical Education, the growing success of which is due in very large measure to his persistent efforts during

the past year. Under his official leadership the Medical Society of Virginia will continue to be one of the most influential and useful of State Medical organizations.

Being public spirited, altruistic and socially minded, Dr. Hodges has cheerfully applied himself to the promotion of the social betterment of others and the development of civic affairs in his community and State.

It is appropriate, the writer thinks, to say in connection with the services that Dr. Hodges has been called upon to render the Society the coming year, that Mrs. Hodges will also occupy a place of responsibility and honor conferred upon her by her colleagues. Mrs. Hodges is the president of the Woman's Auxiliary of the Medical Society of Virginia which renders most valuable service to the Society and the State. Both Dr. Hodges and Mrs. Hodges may no doubt depend on the whole-hearted cooperation and earnest support of every individual who holds membership in either of these organizations.

W. F. D.

The Norfolk Meeting.

The annual meeting of the Medical Society of Virginia in Norfolk proved to be one of the most successful meetings of recent years. The attendance of members was well up to the standard. The addresses and papers were of high order. Scientific discussion and clinical programs were features of definite value to those attending. One of the most striking features of the meeting was the unanimity of thought of the convention in regard to supporting measures that have for their purpose the offering of post-graduate study. It was recognized that a chief function of the Society through its Clinical Department was to carry to the busy practitioners the messages of advancing medicine, to present to active workers in the field who have, by natural course of events, been handicapped by pressure of daily duties, a sort of review or reconsideration of medical diseases and medical problems, both in diagnosis and treatment. It was a matter of peculiar satisfaction to observe the success of the efforts along this line during the past year. A state-wide effort was made last year to give a series of clinical congresses at salient points over the state where opportunity was accepted to make demonstrations and reviews before active practitioners. Plans were laid at the Norfolk meeting, look-

ing to a further development of this function of the State Medical Society. This argues well for the progress of medicine in Virginia, for the reason that the Society, instead of making one assembly for annual consideration of scientific papers and their discussion, proposes to function more or less continuously throughout the year by carrying the messages of medical progress and review to the very cross-ways of the busy practitioners throughout the state.

Another matter of no inconsiderable importance and probably ranking no less in importance was the evident approach of a menacing public opinion favoring the so-called "Social Medicine." It was a matter of gratification to be informed of the steps that the American Medical Association was taking for the purpose of defense against the advance of this fallacious system in America. The Medical Society of Virginia has by its action at the Norfolk meeting directed that a committee be appointed to cooperate with the national society. It is the object of this movement to protect the interests of the medical practitioner and at the same time to prevent the adoption of a system of economics in practical medicine that must quickly and seriously injure the welfare of the sick population throughout the nation. Reference was made to the operation of socialized medicine in foreign countries to point out the evils. America has not felt it incumbent, in protection of its interests and well being to adopt foreign or continental systems in other matters and hardly is the profession of medicine called upon to turn its eyes to foreign fields in order to find a way to solve modern economic problems affecting the practice of medicine at this time.

The cost of medical care to the average citizen has been upon the thought of public officials and in the publications of recent months. This subject received a limited consideration, but the general subject was in the minds of practitioners in attendance at the sessions of the Society and awaits development. It would seem, without going into details, that the question of the higher costs of medical care is one of very intricate nature. The expense of illness results from the elaboration of the possibilities of modern diagnostic investigation calling into action numerous personnel, who must be paid for their work, employing expensive instruments and technic. Expense results from the condition of specialization into which practical medicine has fallen

under the influence of increased knowledge and demands of the public requirements. Expense of modern treatment increases like expense of transportation. Once the public was satisfied with horse-drawn vehicles but now motor transportation is seemingly imperative. Once the family doctor and general practitioner, working in the light of their experience and opportunities, endeavored to meet the demands of illness and pathology but now the laymen seek often the specialists, often prodigally and illogically, incurring large expense without careful budgeting of the problems and expenses. Once home treatments seemed adequate, now hospital treatment, without all the upkeep and overhead incident thereto, is demanded. It is a question of extreme importance whether a more common sense and sane consideration, on the part of the public, under the guidance of an organized medical profession cannot do much to overcome the waste of money in medical care, and have it checked and abridged, by bringing to bear on the problem of expenditure for illness and sickness, a business-like consideration of necessary agencies for the care and cure of acute and chronic illnesses.

In this whole question stands at a key situation the economic interests as well as scientific ability and powers of the rural practitioners of the country and the general practitioners of medicine in urban localities. The more efficient, alert, and up-to-date these general workmen in the domain of the medical profession become, the more well protected the welfare of the public and the economic and business interests of this highly important rank of the practitioners.

What of Renal Tuberculosis?

Every now and then, it seems advantageous to weigh more or less carefully, according to the degree of interest and according to the requirements of practice, questions of clinical medicine in which changing opinion seems to be taking place. Progress in the matter of new knowledge, addition of wider experience, extension of prolonged observations, application of remedial and surgical procedures heretofore not applied or employed, make for the wisdom of a review of the subject and possibly the readjustment of opinion and judgment. With this thought in mind, possibly, Bumpus has recently considered renal tuberculosis in the light of changing conceptions of the condition within the last decade (1920-1930). From an abstract of a paper in the Proceed-

ings of the Staff of the Mayo Clinic (September 17, 1930) one may gather the gist of the author's views and may find therein a statement of the change that has gone in in the contemplation of this subject. For years there may pass through medical teaching accepted opinions that have never had the backing of well-grounded proof or evidence.

Dr. Charles R. Grandy.

It was indeed a just tribute of appreciation that prompted the Medical Society of Virginia to elect Dr. Grandy an honorary member. The Norfolk meeting brought to a close Dr. Grandy's administration as president. Throughout the year, he had given the closest attention to the duties of his office and had shown a keen appreciation of its responsibilities. The welfare of the Society was zealously protected by him. Carefully and business-like, he executed his duties with a high order administrative ability. The interests of the profession in this State will continue to reap the benefits of his wise and indefatigable efforts.

News Notes

Our Annual Meeting,

While a thing of the past, will long be a pleasant memory for those who were fortunate enough to attend. There was a registered attendance of about 500 doctors in addition to the ladies. Norfolk, always a favorite convention city, proved itself no exception this time. Dr. Charles R. Grandy, president, with the vice-presidents, Drs. R. L. Raiford, John A. Gibson, and F. H. Smith, carried out the program on schedule time. The local committee, of which Dr. W. L. Harris was chairman, looked after the interests of the visitors in every way.

Minutes of this session, general and business, will appear in the December issue of the MONTHLY.

Clinics were held on Tuesday afternoon and Scientific and Commercial Exhibits were on display throughout the meeting. Dr. David R. Lyman, New Haven, Conn., invited guest, gave an excellent address on "Factors in Tuberculosis Which Are Often Overlooked," which was illustrated by X-Ray pictures. It was a source of regret that Dr. William S. Thayer, our other guest, was unable to attend.

In addition to the entertainments for the ladies, there was a buffet supper and dance at

the Norfolk Country Club, on Wednesday evening, for the doctors and ladies with them and, following adjournment on Thursday, all doctors were guests of Dr. Grandy at an oyster roast.

Invitations were received from several places for the 1931 meeting but Roanoke was selected by a majority vote. Dr. J. Allison Hodges, Richmond, was installed as president. Dr. I. C. Harrison, Danville, was elected to the office of president-elect, and Miss Agnes V. Edwards was re-elected executive secretary-treasurer. The vice-presidents are: Dr. J. Morrison Hutcheson, Richmond; Dr. M. B. Hiden, Warrenton; Dr. C. B. Bowyer, Stonega. Councilors elected for the even numbered districts are: 2nd, Dr. P. St. L. Moncure, Norfolk; 4th, Dr. Wright Clarkson, Petersburg; 6th, Dr. J. R. Gorman, Lynchburg; 8th, Dr. J. E. Knight, Warrenton; 10th, Dr. J. M. Emmett, Clifton Forge. Drs. J. W. Preston, Roanoke, and E. C. S. Taliaferro, Norfolk, were elected delegates to the American Medical Association for a term of two years, Dr. Southgate Leigh, Norfolk, holding over from last year; and Drs. J. E. Marable, Newport News, and E. G. Williams, Richmond, were elected alternate delegates for two years and Dr. Charles R. Grandy, Norfolk, for one year.

A number of luncheon meetings added interest to this session.

Secretaries' Luncheon.

Following the precedent established by the American Medical Association with regard to its component State organizations and the same plan by several State societies with regard to county units, there was a luncheon meeting of secretaries of county and district societies in Virginia at the Norfolk meeting of the Medical Society of Virginia. Those present were: Drs. Grandy, president, J. A. Hodges, president-elect, J. A. Gibson, vice-president, J. E. Knight, councilor, Miss Edwards, secretary, Miss Watkins, assistant to the secretary, and the following secretaries and presidents, Drs. J. W. Robertson, of Accomac, W. F. Hartman, of Augusta, R. A. Bennett, of Bedford, C. B. Bowyer, of Clinch Valley, J. R. Allen, of Fauquier, J. A. Wright, of Hanover, G. F. Simpson, and Wm. O. Bailey, of Loudoun, Cora Z. Corpening, of Princess Anne, F. C. Rinker, of Second District Society, E. G. Gill, of Southwestern Virginia Society, and W. R. Culbertson, of Wise.

The speakers stressed the fact that the secretary is the "contact" man to reach the profession in his county or district and those attending pledged their cooperation. As an aid to the work of the Department of Clinical Education, which looks to the advancement of all members of the Society, secretaries were asked to get programs of their meetings to the State secretary as far in advance of the meetings as possible. These are to be published in the MONTHLY under the Department of Clinical Education and their publication carries with the notices an invitation for any of our members to attend and take part in the discussions. The secretaries were also requested to keep the executive offices regularly posted as to changes in their membership. It was suggested that programs be so arranged as to furnish material of more practical value to the general practitioner.

It was agreed that a Society of Local Secretaries be formed and that they should have a meeting at the time of the mid-winter meeting of our Council. The doctors present were asked to refer this matter to their societies and ask approval of the plan.

The Virginia Pediatric Society

Held its annual luncheon meeting in Norfolk on October 22nd, under the presidency of Dr. F. D. Wilson of that city. There were about forty doctors in attendance. The principal speaker on this occasion was Dr. John Lovett Morse, professor emeritus of pediatrics of Harvard University Medical School. His subject was "The Thymus and Status Lymphaticus."

At this meeting, a committee was appointed to confer with the Department of Clinical Education of the State Society in regard to furthering interest in pediatric clinics in conjunction with the work of this Department.

Dr. William B. McIlwaine, Petersburg, was elected president; Dr. W. L. Harris, Norfolk, vice-president; and Dr. James B. Stone, Richmond, was re-elected secretary-treasurer.

The Virginia Roentgen Ray Society

Held its annual meeting in Norfolk at the time of the State Society meeting, as luncheon guests of Dr. James W. Hunter of that city. There was an attendance of eighteen members who discussed matters of interest to their specialty. Dr. A. L. Gray, Richmond, was re-elected president, and Dr. Wright Clarkson, secretary of this society.

The Alumni Association of the Medical College of Virginia

Had an interesting social meeting in Norfolk on October 22nd, with Dr. E. C. S. Taliaferro, president of the Norfolk chapter of the Alumni Association, presiding. Eighty doctors gathered around the tables for luncheon. Short talks were made by Dr. Sanger, president of the College, Drs. J. L. Rawls and Frank Hancock, of Norfolk; Dr. W. E. Vest, Huntington, W. Va., president of the general alumni society; Drs. Lawrence T. Price, W. B. Porter, I. A. Bigger, and C. L. Outland, all of Richmond. Dr. Outland is secretary of the general society of alumni. Drs. I. A. Bigger, professor of surgery, and Lee E. Sutton, assistant professor of pediatrics and acting dean of the Medical School, new additions to the full time faculty, were introduced for the sake of better acquaintance.

The American College of Surgeons

Held its Clinical Congress in Philadelphia, Pa., October 13th-17th, inclusive, under the presidency of Surgeon General Merritte W. Ireland, M. C., U. S. Army. There was an attendance of around 5,000 and 652 were admitted to fellowship. Clinics were held both mornings and afternoons at the various Philadelphia hospitals by local surgeons. All scientific sessions were at the Bellevue-Stratford Hotel, headquarters of the College. These included not only papers by eminent surgeons but also talking pictures demonstrating operations. Following the annual convocation, there was a reception for members and guests. A Hospital Standardization Conference was also held during the meeting of the College. Thirty-eight Virginia hospitals appear on the list approved by the College.

Virginia doctors admitted to fellowship at this session are: Drs. Wilbur R. Bracey, Richmond; George Bentley Byrd, Norfolk; Paul Davis and Frank Helvestine, Roanoke; William T. Green, Jr., Cape Charles; Robert P. Hawkins, Jr., Clifton Forge; Harry M. Hayter, Abingdon; Herbert C. Jones, Petersburg; Horace G. Longaker, Newport News; and Charles Bruce Morton, University. The following were admitted to honorary fellowship: Professor Henry Wade, Edinburgh, Scotland; Professor Otfried Foerster, Breslau, Germany; Mr. William Ernest Miles, London, England; and Professor Dr. Emile Grosz, Budapest, Hungary.

Dr. C. Jeff Miller, New Orleans, La., succeeded to the presidency; Dr. Allen B. Kana-vel, Chicago, was elected president-elect; Dr. Franklin H. Martin, Chicago, is director-general.

Golf Tournament at Norfolk Meeting.

The annual golf tournament for members of the Medical Society of Virginia was held at the Norfolk Country Club, October 21st, starting at 10:00 A. M., quite a number of doctors qualifying for play. Dr. E. C. S. Taliaferro was chairman of this feature. After the tournament, luncheon was served for those playing.

Dr. M. S. Fitchett, Norfolk, won a sterling silver sandwich tray for low net score, and Dr. R. H. Dubose, Roanoke, won the right to have the silver cup for the coming year, having won the low gross score. The member of the Society winning this cup three times in succession is to have it permanently. Sweepstakes prizes in the form of golf balls were won by Drs. E. A. Land, Norfolk; H. C. Rucker, Mattoax; F. C. Rinker, Norfolk; J. R. Bagby, Newport News; and Herbert C. Jones, Petersburg.

American Roentgen Ray Society.

The annual meeting of this Society was held at West Baden Springs Hotel, West Baden, Ind., September 23rd-26th, under the presidency of Dr. H. M. Imboden, of New York City. Dr. Alexander B. Moore (an alumnus of the University of Virginia, Department of Medicine), Washington, D. C., recently of the Mayo Clinic, Rochester, Minn., succeeded to the presidency. Officers elected at this meeting are: President-elect, Dr. Leopold Jaches, New York City; vice-presidents, Drs. Edward L. Jenkinson, Chicago, and Eugene P. Pendergrass, Philadelphia; secretary, Dr. John T. Murphy, Toledo, Ohio; treasurer, Dr. William A. Evans, Detroit, Mich.; librarian and editor of *American Journal of Roentgenology and Radium Therapy*, Dr. Lawrence Reynolds, Detroit, Mich.; historian, Dr. Edward H. Skinner, Kansas City, Mo. Dr. Charles A. Waters, Baltimore, Md., was elected new member of the Executive Council. Dr. Preston M. Hickey, Ann Arbor, Mich., will be delegate to the International Radiological Congress in Paris, in 1931, having been elected for this position last year; Dr. George E. Pfahler, Philadelphia, will be alternate delegate *vice* Dr. Leopold

Jaches, also appointed last year but who requested that some one be elected in his place. It was decided to hold the 1931 meeting at Atlantic City, N. J., the date to be set by the Executive Council.

Virginia doctors members of this Society are: Dr. Hunter B. Spencer, Lynchburg; Drs. James W. Hunter, L. F. Magruder, and S. B. Whitlock, of Norfolk; Dr. Wright Clarkson, Petersburg; Drs. A. L. Gray, C. M. Hazen, Fred M. Hodges, J. L. Tabb, and D. D. Talley, Richmond; Dr. J. T. McKinney, Roanoke; and Dr. Vincent W. Archer, University.

The Southern Medical Association

Is to hold its annual meeting in Louisville, Ky., November 11th-14th, as guests of the Jefferson County Medical Society, and it promises to be interesting in every way. Dr. Hugh S. Cumming, Surgeon General of the U. S. Public Health Service, Washington, is president. As for the past few years, the first two days, the 11th and 12th, will be general clinic days, with the clinics by Louisville doctors on the first day and by visiting physicians on the second. There is a wealth of clinical material promised. The formal opening meeting, featuring the president's address, will be on Tuesday evening, the 11th, while the last general session will be on Thursday evening, at which time will be presented the Orations on Medicine and on Surgery. The alumni dinners will be on Wednesday evening and the eighteen sections and conjoint meetings will hold their half day sessions on Thursday and Friday. In addition to the President's reception on Tuesday evening, there will be other social functions, with special entertainments for the ladies, golf for the men and ladies, and trap shooting. Good roads and excellent hotel accommodations, in addition to the social and scientific features, should make for an excellent meeting.

On the day following the meeting, there will be a motorcade to Frankfort, for the purpose of attending the unveiling at the State Capitol of a statue of Ephraim McDowell, the "Father of Ovariectomy." Luncheon will be served the guests at Frankfort, following the unveiling exercises. The motorcade will then take the visitors through some of the beautiful Kentucky country to Harrodsburg where a light lunch and late afternoon tea will be served. Returning, the visitors will reach Louisville

in time for dinner and to catch evening trains home. Members should not miss this meeting!

Loudoun County Medical Society.

A special meeting of this Society was convened early in October, Dr. G. F. Simpson, president, in the chair, to consider the advisability of general vaccination against typhoid fever. The following resolution was passed:

"The Loudoun County Medical Society is now, as it has always been in the past, heartily in favor of the administration of all protective sera, vaccines and other similar protective biological agents, including anti-typhoid vaccine.

"While it does not apprehend the imminence of an epidemic of typhoid fever, as a matter of judicious precaution, it feels, at this time, that it is highly advisable that all persons consult their family physicians, in order that they may receive vaccination against typhoid fever, without unnecessary delay; and it advises that this vaccination should be repeated every three years."

This makes it possible for everyone in the County to be vaccinated, if he so desires. According to custom, the poor, and indigent will be charged nothing.

WM. O. BAILEY, *Secretary*.

Married.

Dr. William Nash Thompson, Stuart, Va., and Miss Opal Norene Ingram, in Danville, Va., October 6th.

Dr. Rufus Marion DeHart, Floyd, Va., and Miss Rachel Bass, Richmond, Va., October 21st.

Dr. William Andrew Brumfield, Jr., of the class of '30, University of Virginia, Department of Medicine, and Miss Elizabeth Mitchell Fagg, Blacksburg, Va., October 7th. Dr. Brumfield is connected with the U. S. Public Health Service and is at present located at Staten Island, N. Y.

Dr. Charles Henry Henderson, of the class of '28, Medical College of Virginia, and Miss Mary Virginia Chiles, of Fredericksburg, Va., October 1st. Mrs. Henderson was graduated from the School of Nursing of the Medical College of Virginia this year. They will make their home in Bluefield, W. Va.

Dr. Patrick Henry Winston, of the class of '29, Medical College of Virginia, and Miss Lillian Frances Gayle, of Stafford County, Va., October 8th. Mrs. Winston was also graduated from the Medical College of Virginia in 1929, her diploma being from the School of Nursing. Dr. Winston is at present a member of the House Staff at Memorial Hospital, Richmond.

Dr. John I. Charlog, Madison, Wis., and

Miss Hazel I. Sheets, Clifton Forge, Va., recently. Dr. Charlog served an internship at the Chesapeake and Ohio Hospital in Clifton Forge, Va., and was connected with the Gill Memorial Hospital of Roanoke, Va., in 1928 and 1929.

Dr. Brewster Arthur Hopkins, of the class of '29, Medical College of Virginia, and Miss Margaret Lettie Harris, Cullen, Va., October 18th. Upon completion of a year's internship at the City Memorial Hospital, Winston-Salem, N. C., Dr. Hopkins became a member of the medical staff at Central State Hospital, Petersburg, Va.

Dr. Douglas Fairbanks Love, of the class of '28, Medical College of Virginia, and Miss Dorothy Anne Settle, Amherst, Va., October 16th. Dr. Love interned at City Hospital, Springfield, Ohio. He is now located at New Market, Va.

Dr. Douglas Doriot Vance, Bristol, Tenn., of the class of '28, University of Virginia, Department of Medicine, and Miss Katherine Millner, Norfolk, Va., September 24th. Dr. Vance interned at Memorial Hospital, Richmond, Va.

Medical College of Virginia News

A handsome engraving of William Harvey, M. D., has been presented to the Medical College of Virginia, Richmond, by Dr. Joseph L. Miller, of Thomas, W. Va., an alumnus of the class of 1900. The engraving bears the date 1739 and was made by I. and P. Knapp-ton, of London.

A gift of \$2,500 for purposes of chemico-medical research at the Medical College of Virginia, Richmond, has been announced. At the request of the donor of the money his name has been withheld. This will make possible a full-time worker for one year in the department of chemistry. Other departments of the school of medicine will fully cooperate in plans already made for the special line of study to be undertaken and will share in the responsibility for the work as it proceeds.

Of the eighty-eight freshmen matriculated in the school of medicine, Medical College of Virginia, Richmond, fifty-six are from Virginia while the remaining thirty-two students come from twelve other states. Thirty-eight of the matriculates have college degrees and forty-two have had more than two years and less than

four years of college work before entering upon the study of medicine. Only eight of the freshmen entered on the minimum entrance requirements, two years of prescribed college work. These eighty-eight students took their pre-medical work at thirty-four different colleges, the University of Richmond leading with eighteen matriculates.

Series of Lectures.

The New York Academy of Medicine, Fifth Avenue and 103rd Street, New York City, announces a Fifth Series of Lectures on Subjects of Special Interest to the Practitioner, to be held on Friday afternoons from November 7th through April 17th, at 4:30 o'clock.

The profession, generally, is invited to attend.

Orthopedic Clinic.

On Monday, September 29th, an Orthopedic Clinic was held at Courtland, Va., for the doctors of that vicinity, at the invitation of the Medical Society of Southampton County.

Twenty-eight cases were selected and shown to the meeting, illustrating the following subjects: Bone sarcoma; Pseudo-hypertrophic muscular dystrophy; Scoliosis; Fracture; Flat feet; Osteomyelitis; Club feet; Arthritis; Bunions; Active poliomyelitis.

Special operations, such as Hoke stabilization of the ankle; stabilization of the shoulder; Gallie living sutures and leg lengthening operations were shown.

Dr. Wright Clarkson gave a very interesting demonstration of the diagnosis of bone sarcoma from X-ray examination.

Dr. Thomas F. Wheeldon was assisted at the Clinic by Dr. Frederick Pilcher, his associate.

The Mecklenburg County (Va.) Red Cross Chapter

Has elected the following doctors as members of its Health Service Committee; Dr. B. S. Yancey, Chase City, chairman; and Drs. G. H. Carter, Boynton; W. L. Varn, South Hill; W. W. Wilkinson, La Crosse; and L. H. Hoover, Clarksville, Va.

News From the Department of Medicine, University of Virginia.

Dr. Edwin Burton has become associated with Drs. Hedges and Woodward and has joined the Medical Faculty as instructor in Ophthalmology. Dr. Burton is a graduate of the Medical School of the University of Pennsylvania. Since graduation he has done

special work at the New York Eye and Ear Infirmary.

Dr. Vincent Archer presented a paper and demonstration on Roentgen Diagnosis of Intestinal Ascariasis before the American Roentgen Ray Society, meeting at West Baden, Ind., on September 23rd to 26th.

Dr. Herman Baruch, of New York City, visited the Medical School on September 16th and 17th.

Dr. H. E. Jordan has been appointed a member of the National Research Council on the Division of Medical Sciences.

On October 1st, Dr. Hugh Trout, Surgeon in Chief of the Jefferson Hospital in Roanoke, Dr. D. L. Borden, Professor of Surgery at the George Washington Medical School, and Dr. Francis G. Speidel, of Washington, came to the Medical School to prepare a moving picture of a special operation on the heart, devised by Dr. Trout.

The Sixth Post-Graduate Clinic, conducted by members of the Medical Faculty, was held at the University of Virginia Hospital from October 2nd to 4th. The total registration was fifty-one.

Dr. Stuart Graves, Dean of the Department of Medicine of the University of Alabama, visited the Medical School on October 6th.

The University Convocation Exercises were held on the morning of October 8th. The principal speaker for the occasion was the President of George Washington University, Dr. Cloyd Heck Marvin. He spoke on the topic of Democracy and the International Mind. The Medical School opened with an enrollment of 231.

Dean J. C. Flippin attended the Exercises of Convocation and the celebration marking Medical Progress at the University of Pennsylvania on October 10th and 11th.

Dr. J. S. McLester, Professor of Medicine in the University of Alabama, visited the Medical School on October 14th.

Dr. Elizabeth H. Edmunds,

Of the class of '25, University of Virginia, Department of Medicine, for a time located in Richmond, Va., has returned from several months' stay in California, and has gone to Ithaca, N. Y., where she has accepted an appointment as assistant medical director at Cornell University. After graduating, Dr. Edmunds interned at Bellevue Hospital, New York, and later was connected with hospitals in Worcester, Mass., and Philadelphia.

Dr. A. L. Carson, Jr.,

Of the class of '25, Medical College of Virginia, who practiced for a time at Thorpe, W. Va., recently completed a post-graduate course at Nursery and Child's Hospital of New York City, and has located at Petersburg, Va., with offices in Medical Arts Building. He will limit his work to obstetrics.

Dedication of Medical Buildings of the University of Virginia.

As will be remembered, the dedication exercises of the new medical buildings at the University took place at the time of the 60th annual meeting of the Medical Society of Virginia, October, 1929. This book records the names of the donors and the Exercises of the Dedication. A very short but complete history of the University of Virginia, School of Medicine, is given, starting with the establishment of the school and up to the time of the dedication of the new buildings. There are many very interesting pictures, showing different views of the building and hospital and several rooms. All addresses given at the Exercises are printed in full in this book.

Dr. Frederick Pilcher, Jr.,

An alumnus of the University of Virginia, Department of Medicine, class of '29, has located in Richmond, Va., since completing his internship at Virginia Mason Hospital, Seattle, Wash., and is associated with Dr. Thomas F. Wheeldon, in orthopedic work.

Dr. J. T. N. McCastor,

Of the class of '27, Medical College of Virginia, after practicing for a time at Thomas, W. Va., now has a surgical fellowship and is an instructor in pathology at the New York Homeopathic Medical College and Flower Hospital. Mrs. McCastor is a student in the freshman class at the same institution.

Dr. Robert O. Lyell,

Formerly of Warsaw, Va., but now a promi-

nent surgeon in Miami, Fla., stopped over in Norfolk for the meeting of the Medical Society of Virginia, upon his return from Philadelphia where he attended the American College of Surgeons.

Doctors Included in State Legion Appointments.

Recent appointments by State Commander R. C. Thompson, of the Virginia Department, American Legion, include the reappointment of Dr. E. J. Nixon, Petersburg, as director of child welfare, and Dr. A. T. Finch, Chase City, as director of rehabilitation.

Dr. Benjamin E. Hunt,

Having completed an eight months' post-graduate course in gynecology and obstetrics at the Graduate School of Medicine, University of Pennsylvania, Philadelphia, has returned to Holden, W. Va., temporarily, to practice while waiting to begin a year's residency in obstetrics, next Spring, at Jersey City Hospital, Jersey City, N. J. Dr. Hunt is an alumnus of the Medical College of Virginia, class of '24, and has practiced for several years at Holden.

Dr. James W. Reed,

Norfolk, Va., who was recently a patient at St. Elizabeth's Hospital, Richmond, Va., is home again and in the best of health.

Dr. Ramon D. Garcin, Jr.,

After a year's internship at King's County Hospital, Brooklyn, N. Y., is now house physician in this hospital and is specializing in internal medicine. Dr. Garcin is a son of Dr. and Mrs. R. D. Garcin, of Richmond, and graduated from Medical College of Virginia in 1929.

Prizes Awarded for Essays on "The Future of Medicine."

Several months ago, the editors of *Clinical Medicine and Surgery* of North Chicago, invited American physicians to contribute essays on "The Future of Medicine." in competition for a first, second, and third prize. A number of manuscripts were received and published in the July issue of that journal. The judges were the readers of that magazine, and the ballots had to be in by August 30th. The awards have been made as follows: First prize to Dr. S. Adolphus Knopf, New York; second prize to Dr. Edward H. Ochsner, Chicago; and third prize to Dr. J. Lewis Webb, Chicago.

Dr. C. W. Trexler,

For more than two years director of the

Sammel Mahelona Memorial Hospital and Government physician for Kawaihau District, Kauai County, Hawaii, is resigning this month, and leaving for Vienna, Austria, where he will pursue post-graduate studies for a year, in diseases of the eye, ear, nose, and throat. Dr. Trexler is a member of the class of '26, University of Virginia, Department of Medicine.

Dr. Peter B. Pulman,

Alexandria, Va., for the past few years secretary of the Alexandria Medical Society, has given up active practice in that city, and will leave this month for Porto Rico, where he has accepted the position of zone surgeon with the Maryland Casualty Company.

Dr. E. W. Ritter,

West Graham, Va., was elected grand chancellor, Knights of Pythias, at the business session of the Grand Lodge in Petersburg, early in October.

Dr. James Thomas Tucker,

Of the class of '27, Medical College of Virginia, announces the opening of his offices for the practice of orthopedic surgery, at 401 Medical Arts Building, Richmond, Va., where he is associated with Drs. William T. Graham and Donald M. Faulkner.

N. C. State Health Officer.

Dr. William P. Jacocks, for the past fifteen years with the International Health Board, has been elected State Health Officer of North Carolina to succeed Dr. Chas O'H. Laughinghouse, deceased. Dr. Jacocks' most recent work was as head of the health work of the Rockefeller Foundation in India, with headquarters at Ceylon.

Obituary Record

Dr. Charles Bledsoe Crute,

Prominent physician of Farmville, Va., died October 9th, following injuries received in an automobile accident. He was fifty years of age and received his degree in medicine from the University of the South, Sewanee, Tenn., in 1903. Dr. Crute had been a member of the Medical Society of Virginia for the past twenty-seven years. He also held membership in several fraternal organizations and in the American Legion. During the World War, Dr. Crute had been a captain in the medical corps of the U. S. Army and saw service in

France. His wife and one daughter survive him.

Dr. Robert Wilson Selby,

Dover, Pa., died October 13th, in a Richmond, Va., hospital, after a short illness. He was forty-five years of age and graduated from the University of Michigan Medical School in '13. Before going to Dover, Dr. Selby was located at Middleburg, Va. He was a former member of the Medical Society of Virginia. His wife and one daughter survive him.

Dr. Henry H. Irwin,

Woodstock, Va., died July 23rd, of cerebral softening. He was sixty-seven years of age and a graduate of the College of Physicians and Surgeons, Baltimore, 1885.

Dr. Walter E. Walker,

Burlington, N. C., died October 3rd, of paralysis. He was fifty years of age and a graduate of the Medical College of Virginia, class of '03.

Dr. Julius Clegg Hall,

Albemarle, N. C., died at the age of fifty-five, of streptococcic infection of the throat. He was a graduate of the Medical College of Virginia in 1899.

Dr. Mary E. Brydon.

The following resolutions on the death of Dr. Brydon were adopted by the Richmond Academy of Medicine at a meeting held on May 27th:

Dr. Mary Evelyn Brydon was born in 1878, in Danville, where her maternal grandfather, Dr. William Dame, had held a pastorate for over half a century. She received her early education there and later studied nursing in Philadelphia. Returning to Virginia, she joined the Instructive Visiting Nurses, who were just beginning their good work in Richmond, under Miss Sadie Cabaniss—and a year or so later went back to her home town to institute the system there.

In 1908 she decided to study medicine and, after taking her degree at the Woman's Medical College in Philadelphia, was appointed resident physician in the Teachers' College at Farmville. In 1917 she became a member of the State Board of Health and ultimately Director of Maternal and Infant Welfare under the Sheppard-Towner Act.

Her labors in this capacity covered instruction of midwives, and the holding of prenatal, infant, and preschool clinics. She also had supervision over the carrying out of the West law, requiring certain hygienic and physical educational instruction for public school teachers and was instrumental in encouraging health work of various kinds among school children.

She was a woman of apparently unlimited strength and energy, and, during the three months immediately preceding her illness, she had made sixty-one addresses, attended 114 conferences, and traveled 3,236 miles, winding up in her old home, Danville.

She returned to Richmond the latter part of March

with an acute attack of laryngitis, developed pneumonia, mastoiditis, and septicemia, and on April 13th, crossed over the river.

Dr. Brydon was a member of the Richmond Academy of Medicine, the Medical Society of Virginia, the American Medical Association, the Southern Medical Association, the Medical Women's National Association, and the United States Public Health Association.

As the committee appointed by the Richmond Academy of Medicine for the purpose, we respectfully present the following resolutions:

1. That whereas to a woman of Dr. Brydon's fervent religious convictions death meant but the beginning of a higher, fuller life, to those who remain, her co-workers, professional associates, and the mothers and children of rural Virginia, there is a void that will not readily be filled.

2. That we, therefore, extend our heartfelt sympathy:

To the State Department of Health, for the loss of a co-worker and associate who for thirteen years truly gave her best and strove increasingly to advance the cause of Preventive Medicine in Virginia;

To the mothers and children in the sparsely settled sections of the state who came for many, many miles through rain and sleet and burning summer sun for professional and friendly advice and maternal care;

To the teachers in the schools whom she enabled to perform so much more efficiently their service to these same children;

To her personal friends to whom she was truly bound with bands of steel;

To her family, who have been loved and guided and protected by her.

3. That a copy of these resolutions be spread upon the minutes of this association, be sent to her family, and be published in THE VIRGINIA MEDICAL MONTHLY.

MARGARET NOLTING,
PAULINE WILLIAMS,
MARY B. BAUGHMAN, *Chairman.*

Dr. Jesse Garvin Carter.

The following resolutions were adopted by the Richmond Academy of Medicine, at a meeting held on September 23rd:

WHEREAS, It has pleased God in His infinite wisdom to remove from our midst, Dr. J. G. Carter, who was a faithful member of the Richmond Academy of Medicine for many years, and,

WHEREAS, Dr. Carter was for many years an earnest and faithful practitioner of medicine in our midst, endearing himself to a large circle of friends and colleagues, and,

WHEREAS, In the passing of Dr. Carter the community has lost a valuable citizen, and the medical profession has lost an ardent and conscientious worker; therefore,

BE IT RESOLVED, That the Richmond Academy of Medicine hereby expresses its deep sorrow in the loss of such a valuable member and wishes to tender its sincerest sympathy to his family and relatives; and,

BE IT FURTHER RESOLVED, That these resolutions be spread upon the minutes of the Academy; that a copy be sent to the bereaved family, and that they be printed in THE VIRGINIA MEDICAL MONTHLY.

Signed:

THOS. D. JONES,
R. W. PAUL,
R. E. MITCHELL.

Dr. S. B. Moon.

The Richmond Academy of Medicine, at a meeting on September 23rd, adopted the following resolutions:

On the twelfth day of last July, Dr. Schuyler B. Moon, a member of the Richmond Academy of Medicine, died suddenly in his home on Grove Avenue. Dr. Moon was born in Albemarle County and received his academic education at Washington and Lee University, where he won the degrees of A. B. and C. E.

From the time of his graduation until 1901, he taught at McDonough School in Maryland, where he was much beloved; and as a teacher he was described in an appreciative notice that emanated from that school after his death, as being patient, capable, tireless and inspiring. He excelled in sports, especially in baseball, football and golf, and was an enthusiastic advocate of physical education.

In 1901 he entered the University College of Medicine, having long cherished the ambition to practice medicine; and from this institution he was graduated with distinction in 1905. Since his graduation he had been engaged in the general practice of medicine in this city, and had an extensive and representative clientele which held him in the highest esteem, not only for his professional attainments, but also because of his limitless patience and intense loyalty, his tender sympathy and his untiring attention in the time of need.

For the last twenty-four years he had been the attending physician at the Home for Incurables, and no group of people with whom he was thrown in contact was more profoundly and visibly affected by his untimely death than the poor unfortunate inmates of this home to whom his regular visits were sources of unspeakable comfort.

During his student days at the medical college he was engaged as instructor, and upon his graduation, became a member of the faculty, in which capacity his former teaching experience served him in good stead.

For a long time he was associated with the late Dr. Hoen in the Pasteur Institute, and upon the latter's death assumed full charge of the chair. He was, also, for a number of years, attached to the staff of Grace Hospital, as consulting pathologist.

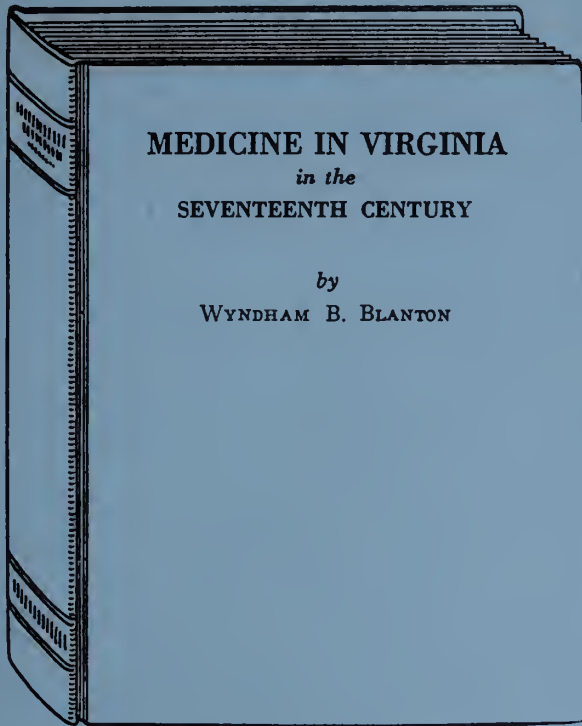
Dr. Moon had an extremely lovable disposition and was one of the most modest and unassuming members of his profession, and because of his retiring nature, he never assumed an active role in public life. Practically his whole thought and time were devoted to his office and his patients, and what little remained was given to his family. He is survived by his wife and daughter to whom in every way he was an ideal husband and devoted father.

BE IT, THEREFORE, RESOLVED, That the Richmond Academy of Medicine hereby expresses its profound sorrow at the loss sustained by the medical profession of this city, and offers its sincere sympathy to the bereaved wife and daughter.

BE IT FURTHER RESOLVED, That these resolutions be spread on the minutes of the Academy, that a copy be sent the bereaved family, and that they be published in THE VIRGINIA MEDICAL MONTHLY.

Signed:

H. W. RANDOLPH, *Chairman.*
P. D. LIPSCOMB,
CULLEN PITT.



*Not the
Book-of-the-Month—
but the
Book-of-the-Century*

This volume has been accorded a universally favorable reception by those of the medical profession in Virginia and the nation who have received the first lot distributed.



A few of the comments received on this volume, prepared by the Historical Committee of the Medical Society of Virginia, follow:

DR. BLANTON HAS made a notable contribution that will live as long as medicine lives in Virginia, and the William Byrd Press has done as good a piece of work as can be done in this Country.—BEVERLEY R. TUCKER, M. D.

I HAVE GONE over the volume and wish to express my appreciation and congratulations to you for the excellent way in which it has been gotten out. The paper, the binding and the type of printing are certainly characteristic of careful and excellent work.—F. C. RINKER, M. D.

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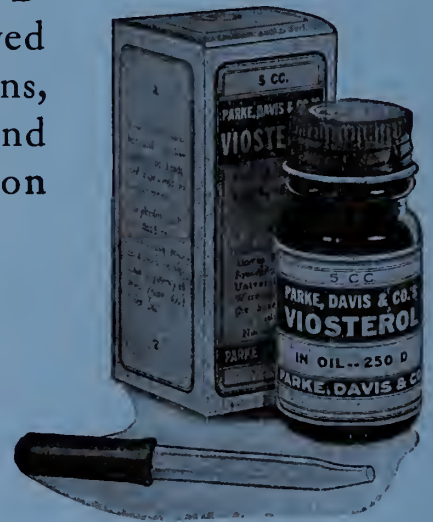
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THE DOCTOR'S PLACE IN COMMUNITY LIFE.*

By J. COLEMAN MOTLEY, M. D., F. A. C. S., Abingdon, Va.

As the practice of medicine is an essential personal service which plays a large part in promoting the happiness of the human race, the doctor has certain civic responsibilities which we might profitably analyze and evaluate. Every doctor, no matter how simple and primitive his environment, has the opportunity to contribute something to the sum total of medical knowledge. That is the prime motive for medical organizations such as this,—that we may pool our professional experience, glean new ideas from our colleagues, and apply them in our local practice for the cure of disease and the relief of suffering.

We are in the habit of thinking that advances in the science of medicine can be made only in the great laboratories within the cloistered walls of richly endowed universities. This is an erroneous viewpoint. One of the most gripping romances in the entire history of medicine is woven about the lives of Dr. William Beaumont and Alexis St. Martin.

You will recall that, on June 6, 1822, St. Martin was accidentally shot, receiving at short range a full load of buckshot in his left side. The force of the discharge fractured several ribs, tore through his left lung and lacerated the stomach. Beaumont, who was Post Surgeon at Fort Mackinac, was called at once to treat the injured man. In his diary, he made the following comment: "In this dilemma I considered any attempt to save his life entirely useless. But, as I had ever considered it a duty to use every means in my power to preserve life when called to administer relief, I proceeded to cleanse the wound, give it a superficial dressing, not believing it possible for him to survive twenty minutes." As it turned out, the patient did survive, Beaumont dressing the wound once, and often twice, a day for at least a year. Ultimately, St. Martin's wound healed completely except the open-

ing in his stomach. All of Beaumont's efforts to close this gastric fistula were fruitless.

In 1825, Beaumont first conceived the idea of using his patient for the scientific study of the processes of digestion. No sooner had the experiments begun, however, when St. Martin disappeared. It was four years before he was again discovered, living with a wife and two children in Southern Canada. Beaumont at his own expense transported the whole family to Fort Crawford on the upper Mississippi, where he was then stationed. Here he resumed his experiments over a period of two years. In 1832, he made a contract with St. Martin in which the latter pledged himself to serve for one year as the subject for any experiment that Dr. Beaumont might wish to make upon him. In return, he was to receive "sustenance, suitable housing, wearing apparel, washing, and \$150.00."

Dr. Beaumont, through this epoch making work, laid the foundation for most of our present knowledge of the physiology of gastric digestion. By the way, this is but one of the many splendid contributions made to the progress of medicine by the Medical Corps of the United States Army.

The unusual incidence of a preventable disease in a community has become generally regarded as a reflection on the local profession. Dr. Ray Lyman Wilbur recently stated that there are 700,000 people in the United States sick with tuberculosis. There are 100,000 cases of smallpox, with 30,000 deaths each year. In the year 1928, there were 26,000 cases of typhoid fever, with 5,700 deaths. There were 89,000 cases of diphtheria in the same year and 8,300 deaths, mostly little children. What of the tragedy of the thousands of children with congenital syphilis?

I think the public has a right to look to the community doctor for the kind of advice and prophylactic treatment that will eliminate preventable diseases. I would urge that we cooperate with our very fine State Health De-

*Address of the President before the Southwestern Virginia Medical Society, at Christiansburg, Va., September 23-24, 1930.

partment in every possible way in educating the public to the knowledge that the deadly diseases which I have mentioned are preventable.

Quoting further from an address of Dr. Wilbur, he makes this rather pertinent statement: "Why physicians practice charity toward those unfortunate people who belong to the whole community is beyond the understanding of anyone except the doctor who has been accustomed to it, and the people who have been taking it for granted." This is one of the few archaic traditions which we have inherited from saddle-bag medicine. Modern economic and social evolution has wrought important changes, some of which present serious problems for the doctor. It is difficult for the medical practitioner to adapt himself to a modern environment because a successful practice is based on personal service, and no chain store methods can ever be applied.

Among modern innovations, the Employee's Compensation Law has been a fine thing for both the laborer and the employer, but not an unmixed blessing for the doctor. While the labor unions are agitating legislation to raise the compensation rates, and the employers' organizations to reduce them, the insurance carriers are constantly bringing pressure to reduce the hospital charges and the doctors' fees. In clear cut compensation cases the insurance carrier usually pays the doctor's bill. If the case is a doubtful one, however, and there is a question involved as to whether the claimant is compensable under the law, the doctor has to treat the injured man, and hold the bag while awaiting the litigation of the case before the Industrial Commission, to determine who, if anyone, is to pay him for his professional services. When, after several months have elapsed, the case comes up for hearing before the Commission, possibly at some place fifty miles away, the doctor is summoned as a witness. He is expected to attend the hearing and testify in the case. In the light of my own experience, he receives no remuneration, even to pay for the gasoline which he consumes in transporting himself to the place of hearing. The task of filling out all sorts of insurance blanks and the vast amount of gratuitous service which the insurance companies are asking of the doctor is fast becoming a serious burden.

What of the doctor's relation to the Volstead Law? Whatever we may think of the merits

of this legislation, I am firmly convinced that the clause limiting the privilege of the physician to prescribing only one pint of whiskey in ten days is arbitrary and unreasonable. The only rational way that one can practice medicine is to give a drug in sufficient quantity to secure its physiological effect. It does not matter whether it takes an ounce in ten days or a quart, the doctor should be allowed to prescribe as much as is necessary for the individual patient whom he is treating. The fact remains, however, that the Congress has placed unusual trust in us by granting even this limited privilege. For the honor of the profession, I hope we shall not abuse this privilege and place ourselves in a competitive status with the bootlegger. In doing so, we shall lose the respect of even those who use us as a means of obtaining whiskey. Personally, I have avoided the importunities of my friends for this very valuable therapeutic agent by declining to secure a government permit, which would qualify me to write prescriptions.

The automobile, while it has wonderfully quickened the pulse of modern life and added immeasurably to our national happiness and prosperity, at the same time has brought its perplexing problems for the doctors and the hospitals. When a tourist is wrecked on the highway, the first good Samaritan who comes along picks him up and takes him to the nearest hospital. The ordinary dictates of humanity demand that the hospital admit him and that the hospital staff give him surgical care without inquiring into his financial status. When the victim regains consciousness, as often as not, it is found that he is a perfectly irresponsible character who expects the world to take care of him. When he recovers from his injury, he slips out and goes on his way to Texas or Colorado without even the formality of saying good bye. The hospitals, particularly, are facing very serious loss on account of this class of patronage. In fact, these wreck victims are becoming about as popular at the small community hospitals as a case of smallpox.

It has been the habit of Medical Societies to devote their sessions almost exclusively to scientific programs to the end that its members might become better doctors. This is as it should be. But I would propose to this body that in the near future we have a meeting in which, at least, a substantial part of a session will be devoted to our economic problems. Or-

ganized capital, organized labor and organized quackery are all making a concerted drive to make what profit they can—often at the expense of the doctor. If organized medicine does not look out for itself, it may be crushed beneath one of the steam rollers.

The lament is often heard that the good old family doctor is no more. This is largely true; but the young, alert physician of today is much better educated and better equipped to render medical service to his patient than was his predecessor of a previous generation. The old doctor of the saddle-bag days was a picturesque and lovable figure, and he wielded a larger influence in the home than is exercised by the modern physician; but in many communities the home itself is almost a thing of the past. We are threatened with the elimination of the American home. Someone has remarked that we are born in the hospital, reared in hotels and apartments, married in church and buried from a mortician's chapel. Modern women of college training, culture and refinement are unwilling to assume the care and responsibility of bearing and rearing children. Birth control, properly applied and supervised by the medical profession, would be a beneficent influence; but it is usually practiced at the wrong end of the social scale. While mental defectives, criminals and paupers are breeding by the thousands, there is a constant shortage of men equipped by breeding, culture, and mental training to furnish leadership in the business and political affairs of the Nation. The same situation has contributed largely to the unemployment problem that is so serious at this time. Too many laborers are born for the available jobs. The judicious advice of the family physician might be quite helpful in correcting this economic error in the supply of human material. Our children spend the summer in camps and the winter in boarding schools. In reckless pursuit of the so-called new freedom, many of our young women are demanding a single standard of sexual morality and tying up to a single standard of immorality. The bakeries, the delicatessen shops and the tea rooms are challenging the very existence of the home.

To be a good doctor, one must first be a good citizen. The privilege of citizenship carries with it many responsibilities which lead us far afield from our professional activities. The

medical practitioner, because of his public position, will be called upon for civic leadership. We must not sidestep this challenge.

In this hour of business depression, the doctor will be the first to feel the financial pinch. We must realize, however, that our patients will have to pay the monthly installment on the radio and the automobile, and then pay cash for their groceries, drugs, and patent medicines. If there happens to be nothing left for the doctor, we must carry our share of the poor man's burden.

In terms of gold, the average doctor will never obtain riches. But measured in spiritual values, the solving of a difficult diagnostic problem, the happy faces of the parents of a child recovering from a serious illness, the consciousness of a day's work well done,—are all rare compensations which contribute to the fulness of life. If we do not take ourselves too seriously, and if we face our daily problems bravely and serenely, we will get out of life just about what we put into it. Perhaps, then, a very few of us may be permitted to walk on the mountain top and catch a vision of the stars.

The Johnston Memorial Clinic.

THE CROSSED CYLINDER—A PLEA FOR ITS MORE GENERAL USE.

By H. GRANT PRESTON, M. D., F. A. C. S., Harrisonburg, Va.

It is difficult to understand why an instrument as accurate, inexpensive, and simple, should have received so little attention and publicity as the crossed cylinder has in the past. Only a few of the refractionists, with whom I have talked, use this instrument and many do not even know of its existence. When asked why they do not use it, they usually say they do not know why or that the method seems too complicated. I can merely say, in answer to the latter criticism, that I know of no simpler procedure, which yields such accurate results; nor one which requires less study to acquaint one's self with it. It is purely a mechanical device, and it is not at all necessary to know the physics involved to be able to use it expertly. If taken advantage of more freely by the optometrist, it would make him much less menacing to the public and much more formidable as a competitor.

Its obscurity is even more surprising when

*Read before the Eleventh Annual Meeting of the Virginia Society of Otolaryngology and Ophthalmology, at Roanoke, Va., May 3, 1930.

one considers that a careful refractionist spends the greater part of his time, in nearly all cases, determining the axis and strength of the astigmatic error and that with the crossed cylinder this can be done more accurately and quickly than with the commoner instruments, such as the astigmatic dial and ophthalmometer. This is particularly true of those cases presenting small "off-axis" astigmatic errors, which are frequently overlooked by the usual method. I might say here that these small astigmatic errors frequently cause distressing symptoms. With this method of crossed cylinders, fewer small spheres, which are seldom the cause of asthenopic symptoms and headaches, will be used, and fewer failures will be found in our records.

My experience with crossed cylinder has led me to consider it indispensable in careful refraction work, but I do not wish to leave the impression that it or any one method should be used exclusively. It does seem to me, however, that internes and students should be thoroughly drilled in this method early in their training. If this method is brought to a more general use by this rather detailed presentation of the subject, I will feel gratified with the result of my efforts.

In any examination where subjective tests are to be depended upon, any method which presents sudden and marked changes, which are easily detected by the patient, should be of great advantage. This is particularly true in the case of children, who cooperate splendidly when the crossed cylinder, with its abrupt change from visual clarity to marked blurring, is used in their refraction. These features, alone, make the crossed cylinder indispensable without considering its accuracy and time-saving virtues.

In 1887, Dr. Edward Jackson, of Philadelphia, developed the crossed cylinder for testing the strength of the astigmatic error, and not until fifteen years later did he suggest its use for determining the axis of this error by means of the same appliance. Since this time I have been able to find only eight discussions of this method in the Surgeon General's Library.

The crossed cylinder is a lens in one axis of which is ground a plus cylinder, while at the opposite axis is ground a minus cylinder of exactly equal strength. It is usually made by grinding a minus sphere on one side with a plus cylinder of twice the strength of this

spherical correction on the other. An example of this is a minus .25 sphere combined with a plus .50 cylinder, which results in a .25 dioptre crossed cylinder with a minus .25 cylinder at one axis and a plus .25 cylinder at the opposite axis. The usual strengths used are .12, which is of most value in determining accurate amounts of astigmatism and the .25 and .50 dioptre. These crossed cylinders are placed in a mounting which has a handle placed at exactly equal distance between the axes of the crossed cylinders. Since the cylindrical axes are at ninety degrees to each other, this places the handle at 45 degrees to each of these principal axes.

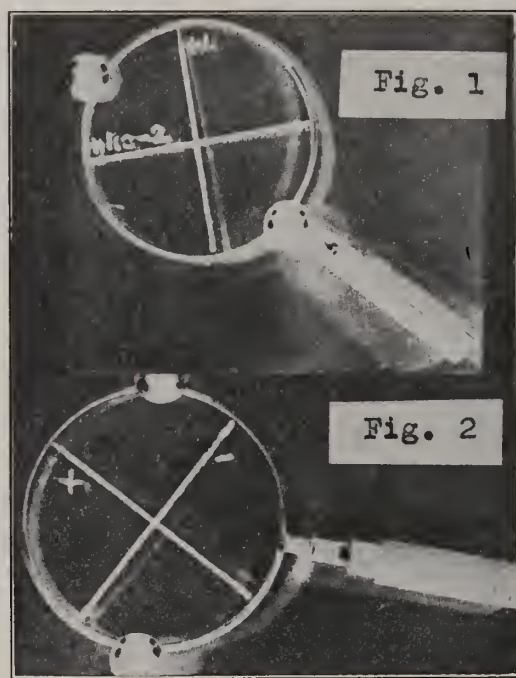


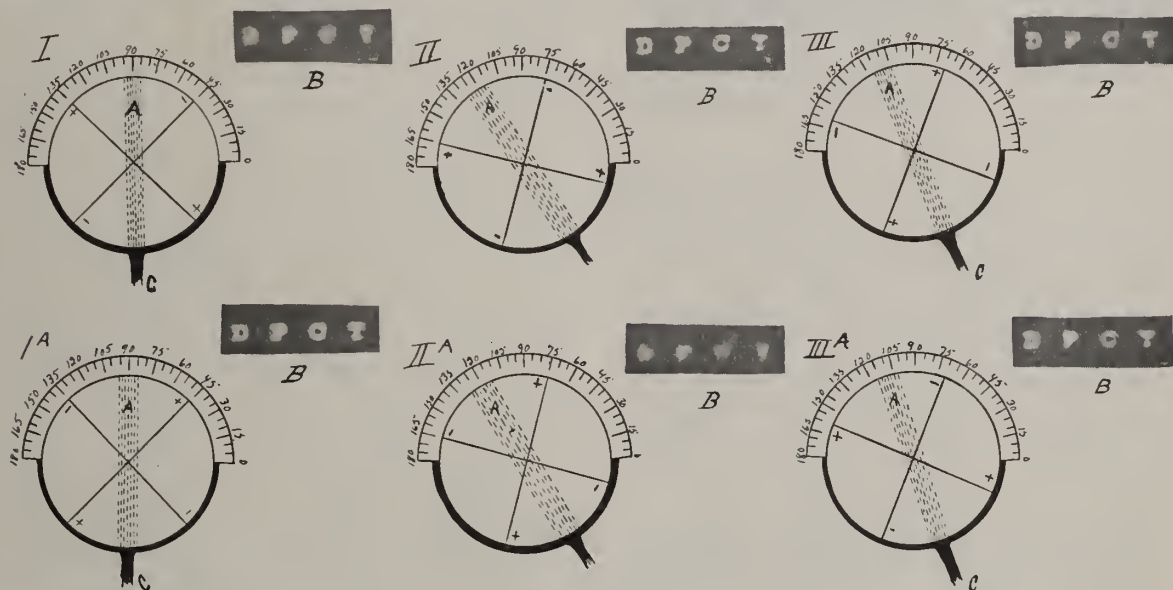
Fig. 1.—Cross Cylinders with handle accurately placed at 45° with axes of cylinders.

Fig. 2.—Incorrect placement of handle.

To roughly determine if astigmatism is present, the crossed cylinder is placed before the trial frame in which there is no lens. For convenience, the plus axis may be placed at 180 degrees, which results in the minus axis falling at 90 degrees. By rotating the handle between the thumb and forefinger, the sides are quickly reversed so that the plus axis is now at 90 degrees and the minus at 180 degrees. The patient is requested to look at the line on the test chart which he can see, even partially, and to tell which side of crossed cylinder gives clearest vision. If there is a

hyperopic astigmatism near or at 180 degrees, or a myopic astigmatic error at or near 90 degrees, the first position will be chosen, while, if there is a hyperopic astigmatism at axis 90 degrees or a myopic at 180 degrees, the second position will appear clearer. If there is no error at or near 90 degrees or 180 degrees, there will be no difference in vision noted in the two positions. The above procedure should be carried out in the same way at axes 45 degrees and 135 degrees. If none of these positions are chosen, it is safe to assume that no astigmatic error is present. As is readily seen, the rationale of the test is the placing of a correcting cylinder near or at the axis requiring a cylinder of a given sign.

the trial lens, since the handle is mid-way between crossed cylinder axes. The appliance is rotated as before and the position of the plus and minus axes are reversed in relation to that of the trial lens. The patient is warned that neither position gives clear vision, but asked which of the two, gives the most distinct picture of the test letters. He will choose the position which most nearly corresponds to the correction required by the astigmatic error. It is now necessary to move the trial lens axis in the direction of that element of the crossed cylinder which corresponds to its sign. This procedure is repeated until such a position is reached by the trial lens as to give no difference in the vision obtained on rotation of the



Group 1. I.—Handle of crossed cyl. C parallel to the axis of trial cylinder. A. Plus axis at 135° and minus at 45° B. Badly blurred test type.

Ia. Position of crossed cyl. axes reversed so that plus is at 45° and minus at 135° B. Clearer.

II. Trial lens axis turn to 120° and handle of crossed cyl. turned to correspond. B. Clearer test type.

IIa. Crossed cyl. rotated so that plus axis at 75° and minus at 165°. B. More marked blurring. Trial cylinder moved too far.

III. Trial lens moved back to 110°. Crossed cyl. moved so its handle coincides with trial axis A. B. Blurring of test type equal to Fig. 3a.

IIIa. Crossed cyl. rotated. B. Blurring equal to that obtained by position Fig. 3. 110° correct axis.

Having roughly determined that astigmatism exists, it is now necessary to find the exact axis required for its correction. A lens of strength of that used in the crossed cylinders is placed in the trial frame at the axis indicated by above "roughing out" process. The sign of this lens should correspond to that of the unit of the crossed cylinder, whose position it assumes. The crossed cylinder is now placed before the trial frame so that its handle corresponds in position to the axis of the inserted lens. This places each axis of the crossed cylinder at exactly 45 degrees from that of

crossed cylinder. This position is the correct axis desired.

As an example, let us place a minus .25 cylinder in the trial frame at axis 90 degrees which, let us assume, is before an eye requiring a minus cylinder at axis 110 degrees for its correction. Placing the crossed cylinder before this glass so that its handle is at 90 degrees, so that the plus element falls at axis 135 degrees and the minus at 45 degrees, we rotate the appliance, which throws the plus cylinder at axis 45 degrees and the minus at 135 degrees. Since this last position more

nearly corrects the assumed error of a minus cylinder at axis 110 degrees, it is chosen as giving the clearest vision. Since the sign of the trial lens is minus, we turn its axis towards the minus element of the crossed cylinder for a variable distance in this case, let us say, 120

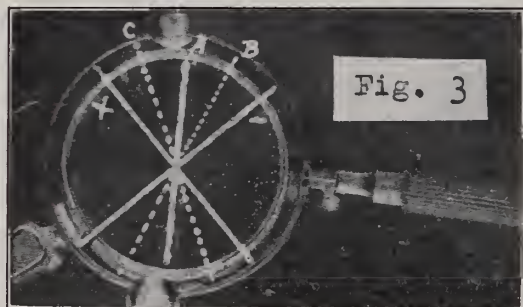


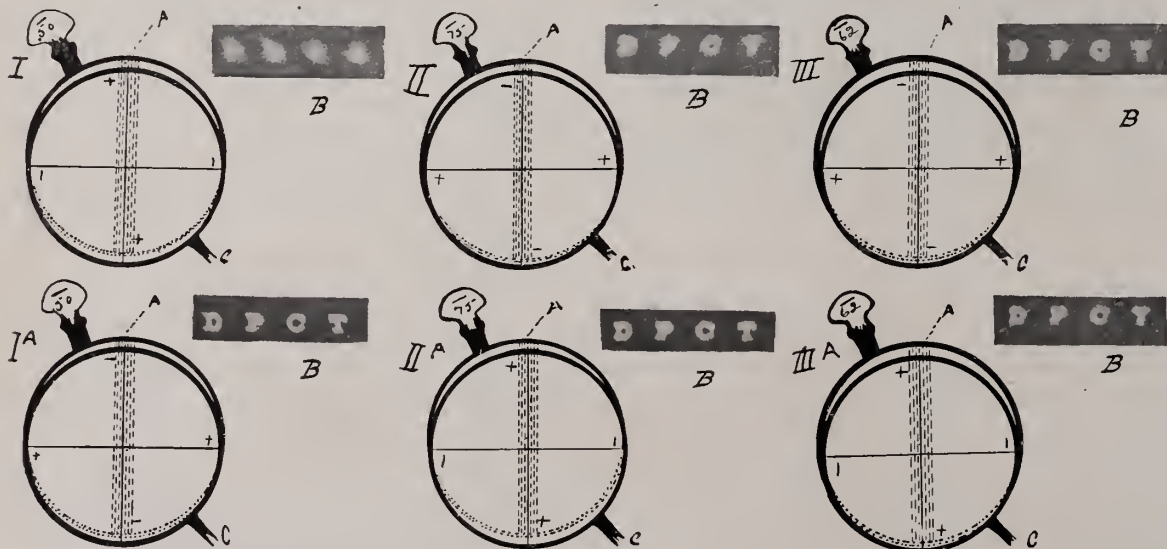
Fig. 3.—Illustrates what takes place when crossed cyl. held with its axis at 45° with trial cyl. axis A. If trial lens is plus, a new plus axis is produced at dotted line C. If trial lens is minus, new axis is produced at dotted line B. (Crisp.)

degrees. The handle of the crossed cylinder is now turned to correspond with this changed axis of the trial lens, namely, 120 degrees. This places the plus element at 75 degrees and the minus at 165 degrees. The instrument is rotated and the plus cylinder changes over to axis 165 degrees, and the minus to 75 degrees. Since the last position more nearly corrects the assumed error of a minus lens at 110 degrees, it will be chosen, indicating that the trial lens has been moved too far and must be re-

turned to a point some where between 90 degrees where we started and 120 degrees. Therefore, let us place the trial lens at axis 110 degrees and again apply the crossed cylinder with its handle corresponding to this new position. It will now be noted that on rotating, both sides give clouding of equal degree and we recognize this as the neutral point and the trial lens is, therefore, at the correct axis.

This test for the correct axis depends upon the fact that when two cylinders of like sign are superimposed, so that their axes form an acute angle with one another, a third cylinder of different strength is formed with its axes mid-way between them. If their strengths differ, the new axis will be nearer the larger cylinder's axis. With the crossed cylinder in position before the trial cylinder, we have its axis crossed at 45 degrees by a cylinder of like sign and a new cylinder formed mid-way between these two. This is true whether the trial lens is plus or minus.

Having determined that astigmatism is present and having found its exact axis, we now determine its exact strength by applying the crossed cylinder in a little different manner. We will continue with the same assumed case used above in determining the axis, namely, an astigmatic error of minus .62 cylinder at axis 110 degrees. A minus .50 cylinder is in the trial frame at axis 110 degrees, and the crossed cylinder is placed before it with the



Group 2. A. Minus 0.50 trial cyl. C. Crossed cylinders with plus axis over trial axis. B. Test letters as seen by patient. (Photographic.) (Crisp.)

Ia. Crossed cyl. C. with minus axis coinciding to trial cyl. axis A. B. Clearer test letters.

II. A. Minus 0.75 trial cyl. with minus axis of crossed cyl. C. superimposed. B. Over-corrected and blurred test letters.

IIa. A. Minus 0.75 trial lens with axis coinciding with plus axis of crossed cyl. C. B. Clearer test type.

III. A. Minus 0.62 trial cyl. with minus axis of crossed cyl. overlying. B. Test type blurred equal to that of Fig. 3a.

IIIa. Plus axis of crossed cyl. over minus trial cyl. axis. B. Blurring of test type equal to Fig. 3. Neutral point reached. Amount astigmatism therefore .62.

axis of its plus element corresponding to that of the trial lens or 110 degrees. The appliance is rotated and this throws the axis of the minus element over the trial lens axis. The patient is again asked to choose the position yielding maximum clarity and chooses the latter with the minus element over the minus trial cylinder. This indicates that a stronger minus cylinder is needed in the trial frame. We now substitute a minus .75 cylinder for the minus .50 which was the trial lens and the axes of the plus and minus elements of the crossed cylinders are again alternately placed before this trial cylinder axis. Clearest vision will be obtained when the plus axis of the crossed cylinder is before the axis of the minus .75 trial lens. This indicates an over-correction and that the trial lens by a minus .62 cylinder. Again the plus and minus axes are alternately superimposed on the axis of this minus .62 trial cylinder and no difference in the visual acuity will be noted.

We have, therefore, reached the neutral point and the correction is minus .62 cylinder at axis 110 degrees.

In conclusion, then, I wish to repeat that in the use of crossed cylinders, we have an inexpensive, simple and accurate method of determining axis, amount and presence, of any given compound astigmatic error. It is particularly adapted to small errors in children and in materially lessening the time ordinarily required for such determination. The time required to determine a given error should not be judged by that necessary to explain the method.

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306-8 Professional Building.

The men whom I have seen succeed have always been cheerful and hopeful, who went about their business with a smile on their faces, and took the changes and chances of this mortal life like men.—*Selected.*

DIAGNOSIS AND TREATMENT OF ACUTE ANTERIOR POLIOMYELITIS IN THE PREPARALYTIC STAGE—WITH REPORT OF CASES.

By THOMAS D. JONES, M. D., Richmond, Va.

Lucas has found in his review of the literature that as many as twenty-four different names have been applied to this disease. However, acute anterior poliomyelitis is the term which the Bureau of Census has urged for adoption. As many as twelve different classifications of the disease have been made. The great majority of cases occurring, however, will fall under one of three heads: (1) Non-paralytic, or abortive, (2) Spinal, and (3) Bulbo-spinal. By far the greater number of cases diagnosed are the spinal type, the percentage running as high as seventy-five in some epidemics. Draper is quoted in the Year Book of Pediatrics 1925 as stating that 50 to 80 per cent of all cases of anterior poliomyelitis are of the abortive type, and do not reach the paralytic stage.

I shall not attempt to discuss the symptoms of the various types under separate heads, but shall confine this part of the discussion to the symptoms occurring in the pre-paralytic stage that are common to all types. The most common prodromal symptoms are irritability, restlessness or sometimes apathy, tenderness and stiffness in the region of the spine, and fever.

Fever is a constant symptom, is not usually high, ranging from 100 to 104, 101 being about the average, and as a rule lasts from two to five days. Stiffness in the neck is more important and is almost constant. The head is not often retracted as it is in meningitis, but is tilted on the neck and can be brought about half-way forward when resistance is met. Stiffness of the spine is perhaps more constant than that of the neck and is best elicited by having the patient sit in bed and attempt to bend the head down to the knees. The deep reflexes are usually active in the early stages. Hyperesthesia is nearly always present and is more pronounced along the region of the spine. Vomiting occurs less frequently than it does in many other acute infections occurring in children. It is recorded in about 25 per cent of the cases in one of the New York epidemics. It occurs early in the disease, is not projectile, and is not often repeated. Convulsions are not at all frequent and are more apt to occur in

the bulbo-spinal type. Photophobia is not often present. Headaches are frequent complaints in older children. The face is usually flushed, and there is frequently circumorbital pallor. Sweating has been considered a frequent symptom by some observers, but has been absent in most of the cases seen by the writer. The throat is almost constantly mildly inflamed, presenting much the same picture that is seen in simple upper respiratory infections. Draper has this to say concerning the symptoms: "It is difficult by descriptive methods to transfer an adequate impression of the subtle and striking difference between the onset hours of infantile paralysis and those of any other of the acute infectious diseases of childhood. To say that the temperature is elevated often as high as 103 and 104, and that the child is flushed and miserable, that vomiting often occurs and drowsiness supervenes does not offer sufficiently distinguishing evidence of the special type of infection; nevertheless, in acute poliomyelitis this common symptom-complex is shot through with delicate manifestations that are unmistakably specific, but must still be viewed as clinical impressions that are helpful though indefinite aids in diagnosis. When infantile paralysis becomes epidemic in a locality which was previously free from its presence, the physicians in that territory soon appreciate this difference from the usual illnesses in children. Without exception all speak of the peculiar expression about the eyes. For, besides the glazed porcelain quality of the sclera and cornea and the not infrequent puffiness of the circumorbital tissues, there is a look of mingled apprehension and resentfulness quite unlike the alert, bright, and shining eyes of other fevers. The psychic change responsible for this look finds further expression in a characteristically annoyed shrugging of the shoulders which occurs when the child is touched or sharply spoken to. Indeed, there is frequently a snarling whine which is synchronous with this gesture of discontent. The child is restless, breathes rapidly, and seems to be busily and actively resisting some incomprehensible disturbance of its usual comfort. In these instances the irritability and resentful manner are not marked, but the whole organism seems to be composed of tensely drawn wires, a universal over-stimulation. This pressor state of the nervous system is so

marked that a sort of impulsive ataxic tremor is present in every motion, especially when that motion has intent."

If one has poliomyelitis in mind, a sufficient number of the above symptoms are evident in practically all cases to at least suggest a possibility of the disease and should be ample justification for a spinal puncture which is the most valuable single procedure in arriving at a diagnosis in the pre-paralytic stage. The amount of fluid is frequently not increased at all, and almost always appears clear when casually observed. But under closer observation, under transmitted light, the ground glass appearance described by Zingher is often seen. An increase in globulin is practically always seen; the average cell count range is usually from twenty to two hundred and fifty. It may be as high as eight or nine hundred, or as low as twelve. Polys are increased in the very early stage of the disease, but rapidly give way to a predominance of lymphs. By a careful evaluation of the symptoms that are nearly always present, a diagnosis can be made in the pre-paralytic stage in most cases; occasionally, however, a case may be missed until paralysis develops in spite of the most careful analysis of findings. The importance of a diagnosis in the pre-paralytic stage cannot be over-estimated, as the proper treatment at this stage offers the best possible outlook for the most favorable results.

TREATMENT: The early administration of convalescent serum is by far the most important therapeutic measure known at this time. Aycock and Luther reported one hundred and six cases treated with serum in the pre-paralytic stage, all of them receiving the treatment in the first four days of the disease by intraspinal and intravenous injection. The average total paralysis in the treated series was 19 per cent, as compared with 63 6/10 per cent in 482 untreated cases. Of the treated patients, 5.7 per cent developed paralysis in the two severe grades as compared with 46 per cent of the untreated group. In a group of fifty-four cases reported by the New York Health Department, treated by intraperitoneal injections of 15 c.c. of the convalescent serum in the pre-paralytic stage, using from one to three injections, forty-four of these cases remained free from paralysis; and, of the ten developing paralysis, five made complete recoveries. In

the small group of cases reported by Amos and Chesney, in which the serum was given both intravenously and intraspinally, 71 per cent did not develop paralysis. McEwen, Chown, Bell, and McKenzie report 161 cases; seventy-four of these received serum in the pre-paralytic stage, thirty-three received it too late to be of benefit, and fifty-four did not receive it at all. They gave 25 c.c. intramuscularly in most cases. Only a small number received it intraspinally. If the disease was found to be progressive, subsequent doses were given. In no instance was there an immediate or late unfavorable reaction following its use. Of those receiving 25 c.c. in the pre-paralytic stage, 93 per cent made complete recovery. Of the fifty-four receiving no serum, only twenty made complete recovery, eleven died and the remainder were paralyzed. These results would indicate that there is little value in giving the serum after paralysis has developed. The mode of administration of serum seems to mean very little; apparently just as good results were obtained when either one of the four methods were used as in the combined method. Rosenow and Nickle report excellent results from the use of poliomyelitis anti-streptococcus serum. In a series of 1,113 cases treated over a period of five years, they report a reduction in mortality from 29 per cent in control cases to 2.9 per cent in the treated cases. The effect was most marked when given in the pre-paralytic stages, but they state that there appeared to be some curative effects when it was given after paralysis had developed, the mortality in this group being less than half of the control group. All injections were given intramuscularly and they strongly advise against it intraspinally. Late reactions were very common, occurring in 106 of 142 treated in one group of cases. There is little more to be said concerning treatment in the pre-paralytic stage. The child should, of course, be isolated and treated symptomatically, as indicated. Aspirin given in combination with luminal is of great value in relieving the pain and allaying some of the nervous symptoms. I shall not attempt to discuss the treatment after paralysis develops. The only object of this paper is to emphasize the importance of proper management in the pre-paralytic stage.

The following cases are reported with the

hope of emphasizing some of the foregoing points:

Case 1.—S. P., white female, age four, seen first July 7, 1929. Child had not appeared well for twenty-four hours preceding. Had seemed cross and irritable; had had no vomiting. The temperature at first visit was 101. The face was slightly flushed, expression was one of apprehension, there was a slight rigidity of neck muscles, reflexes were normal, and the throat was mildly inflamed. She was seen again the following day at which time the temperature was 101.8, the neck rigidity was more pronounced and there was some stiffness of the spine. A lumbar puncture was done at this time. The fluid, which was apparently under some pressure, was clear, showed a strongly positive globulin, and a cell count of around 90. The next day she appeared more comfortable, and the temperature was 100. On the following day, a lumbar puncture was done and about 10 c.c. of fluid was withdrawn. She was treated symptomatically. Convalescent serum could not be obtained for this case. She was kept in bed for four weeks, at the end of which time she was seen by an orthopedist. There was some paralysis in both legs. Light plaster casts were applied and she is still under treatment, wearing braces at this time. The prospect for complete recovery is doubtful.

Case 2.—M. A., white female, age three, was first seen July 19, 1929. She had a history of having been feverish and fretful for two days. There had been no vomiting, temperature was 101, patient appeared very irritable, there was no stiffness of neck or spine, the throat was mildly inflamed, and pulse rate was accelerated. She was put to bed and given some treatment. Mother reported next day that she seemed to be a great deal better and she did not think it was necessary for me to see her, as her temperature was normal. She called me to see her again two days later, when I found her with a temperature of 101, some little stiffness of neck, and some general hyperesthesia which was pronounced in the region of the spine. Lumbar puncture was done, 15 c.c. being obtained, the fluid apparently being under no pressure, and was slightly opalescent. There was a distinct globulin increase, with a cell count that was around seventy. The picture remained about the same for the next two

days with the exception of some weakness in the legs. Fifty c.c. of convalescent serum was obtained through the courtesy of Dr. Kyle, of Lynchburg, and 23 c.c. was administered intraspinally and 25 c.c. intramuscularly. Twenty-four hours later the temperature was normal, there was no reaction from the serum, and she appeared a great deal more comfortable. The weakness of the legs, however, became a little more pronounced, and at the end of three weeks, she was placed under the care of an orthopedist who advised that there was every indication she would recover complete function. She returned to her home three months later, having almost completely recovered.

Case 3.—A. V. P., white female, age eight, was seen in consultation July 30, 1929. She had been sick only a few hours, had had one attack of vomiting, the throat was inflamed, temperature was 102.3, she appeared very irritable and nervous, but there was no stiffness in the neck or spine. It was not felt that there was sufficient evidence of poliomyelitis to justify a lumbar puncture at this time. She was put to bed and the physician in charge reported next day that she seemed much better. The day following she developed some stiffness in neck and spine, marked nervous irritability and a good deal of soreness in attempting to turn over in bed. A lumbar puncture was done, the fluid did not appear to be under much pressure. About 19 c.c. was withdrawn. It was clear, showed a definitely positive globulin, and the cell count was 82. Some convalescent serum was secured the following morning and a second lumbar puncture was done, 28 c.c. of fluid was withdrawn, and 25 c.c. of serum was given intraspinally, another 20 c.c. being given intramuscularly. Temperature completely subsided after about two days. There was no positive evidence of paralysis at any time, though some stiffness of back was noted. She was kept in bed for six weeks, at which time she was examined by an orthopedist who could find no paralysis, but advised keeping her in bed two weeks longer. She has been perfectly well and active ever since.

Case 4.—F. L., white male, aged six, was seen in consultation August 25th. Had been sick about twenty-four hours. Complained of headache and pain in the back. There was marked stiffness of neck and spine, patient was very

irritable and there was general hyperesthesia, with a temperature of 103. There had been no vomiting. Lumbar puncture was done and 13 c.c. of fluid was removed. Fluid was clear and did not appear to be under pressure, showed a strongly positive globulin, and a cell count of 92. Four hours later a second lumbar puncture was done, when 20 c.c. of fluid was withdrawn. Twenty-three c.c. of convalescent serum was given intraspinally, 25 c.c. intravenously, and 25 c.c. intramuscularly. There was no reaction. Temperature gradually came down and was normal four days later; the other symptoms subsiding gradually. At the end of four weeks there appeared to be some weakness in the muscles of the back. The patient was kept in bed for six weeks and at that time showed no muscle weakness anywhere, recovery being apparently complete.

Case 5.—W. B., white male, aged six, was seen in consultation on September 17, 1929. He had been sick eighteen hours, temperature was 101, throat was considerably inflamed, and there was a marked stiffness in neck and spine. Reflexes were exaggerated, there was a general hyperesthesia with a great deal of pain and discomfort in attempting to move in bed. Lumbar puncture was done and about 30 c.c. of fluid, under pressure, was withdrawn. The symptoms were so definite we decided not to wait for laboratory report, and gave 25 c.c. of serum intraspinally, 25 c.c. intravenously, and 25 c.c. intramuscularly. There was no reaction, and the temperature was normal two days after administration of serum. The laboratory report on the fluid showed a cell count of 76, with a positive globulin. The child never showed definite evidences of paralysis at any time. The family physician reports there appeared to be some little weakness in the right leg for a short time, which cleared up entirely in two or three weeks.

Case 6.—W. C. B., white male, age seven was seen on September 26, 1929. Child had been sick only a few hours, but had had one attack of vomiting and complained of headache. The temperature was 103; there was marked rigidity of neck and spine, marked hyperesthesia, and there was pain in legs and back which was very severe when child attempted to move. Lumbar puncture was done and about 30 c.c. of clear fluid was obtained, appearing to be

under some pressure. Fluid showed a strongly positive globulin, with a cell count of 100. Twenty-five c.c. of convalescent serum was given intraspinally, 25 c.c. intramuscularly, and 25 c.c. intravenously. The child was more comfortable the next morning and the temperature was 100.2. Temperature reached normal in three days; soreness, stiffness, and irritability subsided after about three or four days, and there was a great deal of difficulty in keeping the child in bed. He got out of bed in two weeks against my advice, but has shown no signs of paralysis at any time. He seemed perfectly well a month later when he was examined.

Case 7.—Baby E., white female, 1 year old, was first seen September 26. Had been sick about twelve hours. Chief complaint was fever and restlessness. She showed a moderately red throat, temperature was 100.2, but there had been no vomiting. Five days previous to this time, I had seen a child two years old in the same house presenting practically the same picture, but the temperature was normal in twenty-four hours and all symptoms disappeared in forty-eight hours. Baby E. was seen again the following morning. At this time the temperature was 101, she seemed more irritable, and there was some stiffness of neck and spine. A lumbar puncture was done, and 28 c.c. of clear looking fluid, which did not appear to be under pressure was obtained. Fluid showed a cell count of 86, with a strongly positive globulin. Twenty-three c.c. of convalescent serum was given intraspinally and 28 c.c. intramuscularly at 5 P. M. About ten o'clock the baby had a chill and temperature went up to 104.6, but gradually came down, and was 99.4 the following morning, reaching normal two days later. The baby was very fretful and irritable and seemed to have a good deal of stiffness and soreness for about ten days, at which time the symptoms gradually cleared up and the child appeared perfectly well at the end of three weeks. She was seen at that time by an orthopedist and was found to show some weakness of muscles in the back and in the right leg. Two weeks later the family moved to Washington, but she was reported four months later to have completely recovered.

Case 8.—Colored male, 2½ years old, was seen in consultation. Had been sick eighteen hours. Throat was red, neck and spine stiff, and temperature was 100. There was a decided

tremor and a marked hyperesthesia. Lumbar puncture was attempted, the needle appearing to enter the canal without difficulty, but no fluid was recovered at first. The needle was withdrawn and a second attempt was made in another interspace, when perfectly clear fluid finally appeared. Two c.c. was all that could be recovered after waiting about ten minutes. This appeared clear, but on examination showed a cell count of 270, and a strongly positive globulin.

No attempt was made to give the serum intraspinally on account of the small amount withdrawn. Twenty-five c.c. was given intravenously and 50 c.c. intramuscularly. There was no recation. Temperature was normal in three days. There appeared to be some slight weakness of left leg for two or three weeks, but the child was perfectly well at the end of a month.

Case 9.—P. N., white female, age 25 months, was seen September 21st, at 10 P. M. Mother stated she had child on street two hours previously and she was taken with an attack of vomiting and complained of pain in left leg. I found her with a moderately inflamed throat, and a temperature of 101.2. Child appeared very irritable, but there was no stiffness of neck or spine. The child was seen the following day, when she appeared a little nervous, but temperature was normal. She seemed to be a great deal better. The next day there was no temperature and no stiffness of neck or spine, but she appeared very nervous and apprehensive. On the following day, there appeared to be some little weakness in the right leg. A lumbar puncture was done, and about 10 c.c. of fluid, which was perfectly clear and under no pressure was withdrawn. Cell count was 5, and globulin negative. On the next day, weakness of right leg seemed more pronounced. A second lumbar puncture was done and about 22 c.c. of perfectly clear fluid obtained. Cell count was 6 or 7, with a negative globulin. Twenty c.c. of convalescent serum was administered intraspinally, and about 45 c.c. intramuscularly. On the day following the administration of serum, she showed some weakness of left leg and left arm. Paralysis steadily progressed for about three days, at the end of which time the right leg and left arm seemed completely paralyzed, and there was a partial paralysis of the left leg and muscles of the back. This child had a chill about four hours

after serum was administered, and a temperature of 104, which came down in two hours. and there was never any fever after the second day following administration of the serum. There has been a gradual improvement of symptoms since then, with apparently complete recovery of arm, although there is still some weakness of left leg and considerable weakness of right leg. Six days previous to onset of symptoms, a child three years of age was seen in the same house and presented very much the same picture, but was completely well within forty-eight hours.

Case 10.—Baby S., white male, age 1 year, was seen in consultation on October 6, 1929. Was taken sick on morning of the same day, and had vomited once. On examination, showed a moderately inflamed throat, there was some little stiffness of neck and spine, and temperature was 100.2. Baby appeared very irritable. Lumbar puncture was done on the following morning when about 28 c.c. of fluid was withdrawn. 25 c.c. of serum was given intraspinally and 25 c.c. intramuscularly. There was no reaction and temperature was normal in three days. The spinal fluid showed a cell count of 620, and globulin was positive. Baby appeared perfectly well two weeks later, and has shown no signs of paralysis.

SUMMARY

Obviously no definite conclusions would be warranted from such a small group of cases. There are, however, a few points in connection with this series that might be worthy of comment. The results obtained from the use of convalescent serum were equally as good as those previously reported in the literature, and might serve to further emphasize the value of early serum treatment. In the three cases appearing to have some permanent paralysis, one did not receive serum at all, and, on account of the atypical symptoms, one did not receive serum until after paralysis had developed. In the other cases, serum could not be obtained until five or six days after the onset of the disease. It might be argued that some of these cases treated early might have been of the abortive type and would have recovered without serum; on the other hand, the poor results from treatment in the three cases which might properly be considered as controls could hardly be regarded as a coincidence, and the severity and length of duration of acute symptoms oc-

curring in all of the treated cases would hardly justify a conclusion that any of them were of the abortive type. The two cases of illness mentioned in connection with cases 7 and 9, and not reported as acute anterior poliomyelitis, were probably true abortive cases, but the diagnosis was not confirmed by spinal fluid examination.

In closing, I wish to express my deep appreciation for the valuable aid given me by the Richmond City Health Department, also the State Health Department, in the management of these cases. Excellent laboratory facilities and expert consultants were available at all times, and convalescent serum was promptly obtained through the Health Department in the last eight cases.

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THE VALUE OF FLUOROSCOPY.*

By CLAUDE MOORE, M. D., Washington, D. C.
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Roentgenology has been called the eyes of the medical profession. Too frequently it has been regarded as the photographic camera by those unacquainted with its possibilities. Contrary to the usual conception, the making and interpretation of roentgenograms is not the principal interest of the best qualified roentgenologists. The use of the fluoroscope now about equally divides his time in seeking out normal and abnormal physiology and pathology. Roentgen rays were first discovered with an improvised fluoroscope. Roentgen first saw platino-barium cyanide glow in the dark when irradiated with the Crook's tube. The earliest workers used hand fluoroscopes to find pathological conditions, and to determine the condition of their tubes before attempting to make plates.

The best roentgenograms today are made with intensifying screens in which the principle of fluorescence is used. The roentgen rays form an image on these screens, which in turn gives off actinic or visible light, thereby giving an added effect to the film much more intensive than the roentgen rays. In modern diagnosis abnormal physiology is frequently important in leading to a diagnosis. With the roentgen ray this is possible in only two ways, with motion pictures or the fluoroscope. As yet no lens has been found that can focus

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the roentgen rays, and motion X-ray pictures are impossible. Films and mechanisms for very rapid film taking are too expensive and cumbersome for practical use. Hence fluoroscopy is the method universally used. In Europe and especially on the Continent the roentgenologists are more expert in the use of the fluoroscope than are those in America. This is merely a result of training. Due to economic conditions the numerous films considered essential in this country to make a diagnosis cannot be afforded. Because of their experience, the European roentgenologists are able to make diagnoses with the fluoroscope that might be considered impossible by American roentgenologists. In one of the clinics in Vienna I saw them make routine chest examinations with the fluoroscope, and films were made only on doubtful or very important cases. It is unusual to see the roentgenologist call for a film after a fluoroscopic examination of the gastro-intestinal tract. At the Mayo Clinic, films are not considered necessary in gastro-intestinal examinations, where previous fluoroscopy showed no pathology.

One of the faults of many medical men is his doubt of his fellow associate's ability. In other words, he has that typical American attitude of "show me." The average roentgenologist, fearing that spirit, takes films in order to *try* to show the referring physician or the patient the pathology he has found in the dark room. Many times this information cannot be recorded on films. The roentgenologist's ability should be judged not by his skill in making beautiful roentgenograms, but by his ability to make correct diagnoses with the roentgen ray. In this way confidence in his opinion is created. Frequently the referring physician will be shown into the dark room, and his eyes not being accommodated to the darkness, he will hardly be able to see the fluoroscope itself. He seldom remains long enough to see more than a hazy image on the screen, and he incorrectly imagines that the examining roentgenologist is seeing the same faint image. The referring physician seldom realized that the roentgenologist has spent ten to fifteen minutes accommodating his eyes to the darkness before beginning work. Many medical men, having some general ideas of roentgen diagnosis, install their own equipment and attempt to do their own diagnostic work. They have heard of the danger of the rays and have seen the scars of the pioneers

in this field. Therefore they encumber themselves with so much protective covering that they cannot make satisfactory examinations with the fluoroscope. Many of our leading roentgenologists do not consider that lead, rubber gloves and apron are necessary. When only a small volume of current is used, and the patient is always kept between the examiner and the rays, a light dress buckskin glove is all the protection necessary, regardless of how much work is done.

The diagnostic possibilities of fluoroscopy are almost as unlimited as diagnosis by means of films. Each has its own field of possibilities, and these fields nearly always overlap and frequently coincide. Films are always well for records when there is definite pathology, but frequently this pathology cannot be recorded on films, at least in many cases not so plainly as it can be seen on the fluoroscope. Semi-opaque organs in motion can be watched. The gastro-intestinal tract and other hollow viscera can be filled with opaque material like barium, lipiodol and other halogens, and watched in their movement.

In chests with broadening of the mediastinum the diagnosis cannot be differentiated on the films. The roentgenograms indicate only size, shape, and position, even when many films are made. At fluoroscopy they may be seen to be expansile or non-expansile, thereby differentiating aneurysms, diffuse dilatations of the aorta, and unusual cardiac enlargements from solid tumors of the chest. By putting the finger in the suprasternal notch and having the patient swallow, the examiner may distinguish a substernal goiter from a general broadening of the upper mediastinum. The mass will rise as the pharyngeal muscles contract. Congenital heart lesions may be suspected by watching the atypical rhythm of some hearts. Large pericardial effusions can be differentiated from cardiac hypertrophy by the failure to see the cardiac rhythm from auricle to ventricle while beating in the sac of fluid. Roentgenograms of the diaphragm will show the phase of its motion depending on the timing with respiration, but on the screen its full excursion is seen with every breath. Either side may be fixed due to cutting or paralysis of the phrenic nerve. Either side may be lessened in motion due to an otherwise unrecognizable inflammatory subdiaphragmatic lesion or an acute pleurisy.

The principal value of fluoroscopy has de-

veloped in gastrointestinal diagnosis, and if necessary the opaque media may be watched through the entire tract. Often a large diverticulum of the esophagus containing food at the bottom cannot be distinguished from a dilatation above a stricture or malignancy except by seeing the diverticulum fill and overflow down the esophagus. In each case the irregular base appears the same in the roentgenogram, and the irregularity caused by the food would look more like a carcinoma if seen only on the roentgenogram. In constrictions of the cardia the peristalsis, both forward and reverse, seen in cardiospasm is a valuable aid in differentiating it from a malignancy. In other cases of malignancy of the esophagus where there is infiltration of the wall for a considerable distance, certain irregularities seen on the film may be taken for peristaltic waves and the diagnosis missed.

Fluoroscopy is used almost universally by the roentgenologist in examination of the stomach and duodenum. Ulcers most often occur on the lesser curvature, but frequently they are on either wall, and are so small that the slightest rotation either way will bring them into profile. The same is true of small tumors attached to either wall which will be missed unless seen in profile. Using only a light leather glove, the examiner may palpate and approximate the walls of the stomach and duodenum, see the rugae of the normal stomach, and observe any small filling defects. These filling defects may be either food and secretion or tumors. The former can be displaced or mixed with the barium, and the latter can be more accurately localized than at previous physical examination. The cascade type of stomach can be pulled down into position. By approximation of the stomach or duodenal walls, ulcers, situated either posteriorly or anteriorly, will show up as round black spots that disappear as the pressure is relaxed. These spots are the craters filled with barium, showing after the barium on the surface has been scraped away. It is very exceptional to see these ulcers on the films, and it is getting to be more and more the habit to search for these craters. Diligent search will reveal a fair percentage of craters, especially in the duodenum. By considerable manipulation and massage, mucus and secretion can be washed out of these craters, barium enters and suspected ulcers can be demonstrated. Many

carcinomas that look operable in the roentgenogram are found on the screen to be inoperable. Rotation and palpation shows that more of the mucous surface is involved than can be seen on the films. Old operative abdominal scars will tie up the stomach and duodenum so that they will look like intrinsic deformities. Spasm of the duodenal bulb from ulcer may be so slight that many films would have to be taken to show the deformity, but one rotation of the patient before the fluoroscope reveals the constriction in the duodenal bulb, and the diagnosis can be made.

Hernias through the diaphragm, unless they are very large, are difficult to diagnose except in the dark room. Roentgenograms usually show much contortion and displacement of the anatomy, but the course of the barium through any part of the gastrointestinal canal into the chest cavity is not difficult to follow. Sometimes suspected diaphragmatic hernias are found to be only congenital eventrations. After surgical repair, the security of the closure can be judged by the functioning of the diaphragm.

Fluoroscopy has been of little aid in the diagnosis of lesions of the small bowel. Chronic obstruction can sometimes be located by separating the intestinal loops enough to see the dilated portion. Chronic inflammations may be suspected because of hyperperistalsis. Gall-bladder examination in the dark room yields little that is of value. Occasionally diagnosis of large, dense gall-stones of a non-functioning gall-bladder may be confirmed or else ruled out as an extraneous calcified condition. This is done by rotating the patient and viewing the lesions from many different angles. Some roentgenologists have tried to locate the dye-filled gall-bladder and then snap films before the patient was moved, but routine cholecystography in the usual way is most satisfactory.

Fluoroscopy of the colon is done by two methods, one by later following the barium given by mouth, a very unsatisfactory way, and the other by enema, a most satisfactory method. The important points in examination of the colon are following the barium enema backward through the colon, and by palpation and rotation to see each and every loop of the bowel. Since the colon runs in three dimensions and the loops overlap, every segment must be seen to exclude lesions. Masses

can be palpated directly and filling defects caused by retained feces can be displaced through the lumen. Spasms can be seen to contract and relax, and other filling defects showing only on the film may be the results of pressure from abdominal organs or pressure of the spine. Hyperperistalsis may be watched in early inflammatory lesions such as tuberculosis of the cecum, when the disease has not gone far enough to cause stricture or filling defects.

Fluoroscopy of the urinary tract has not come into very extensive use. Conversion of the cystoscopic room into a dark room is difficult. The examination of the extreme movements of an ectopic kidney with the pelvis injected is sometimes of value. The greatest aid of the fluoroscope in urology is to the surgeon in the operating room in locating and localizing stones. When the kidney is exposed it is of great aid to know in what calyx or portion of the kidney the stone is located or whether any stones have been left after several have been removed. The fluoroscopist can sometimes assure the surgeon that what was diagnosed as a stone before operation was not located in the kidney when the latter is held up into the wound. There would be fewer multiple operations for the same kidney stone if fluoroscopy were done more frequently in the operating room.

In following the course of lipiodol through the spinal canal fluoroscopy is sometimes of advantage, and the same is true of the bronchial tree. There are a few reports of cases in which this drug has been seen passing through an arteriovenous aneurysm.

The literature contains many articles and reports of the aid the fluoroscope has given in various procedures. These are too numerous to allow more than mention of some of them. It is in these that the screen has been called the third eye. In fracture work the fluoroscope is an indispensable aid, and it was here that the screen began to have its first use. The removal of foreign bodies from many of the hollow viscera as well as the solid tissues is frequently done in the dark room, with "roentgen vision." Dr. Chevalier Jackson, the pioneer in bronchoscopy, considers the fluoroscope one of his greatest aids.

It must not be imagined that fluoroscopy is independent of roentgenograms. The latter, because of their better detail, are fre-

quently necessary to clinch the diagnosis, but in a great number of conditions, a large series of films would be necessary to suspect what is seen very plainly in the dark room.

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George Washington University Hospital.

THE TREATMENT OF STERILITY.*

By M. PIERCE RUCKER, M. D., Richmond, Va.

To produce offspring, healthy spermatozoa must come in contact with healthy ova, and the fertilized ovum must find lodgment on healthy uterine mucosa where it can develop to a stage compatible with extra-uterine existence. Any break in this chain causes sterility. The occasional viable fetus in an abdominal pregnancy is merely an exception that proves the rule. Women who always abort are just as sterile as women who have closed tubes or deficient ovaries.

I have had several striking examples of this type of sterility. One case aborted three times in the early stages of pregnancy. At her last pregnancy she stayed absolutely in bed from the time she missed her period until she passed the ovum. Unfortunately no study was made of the ovum, but she and her husband were thoroughly studied from every standpoint and

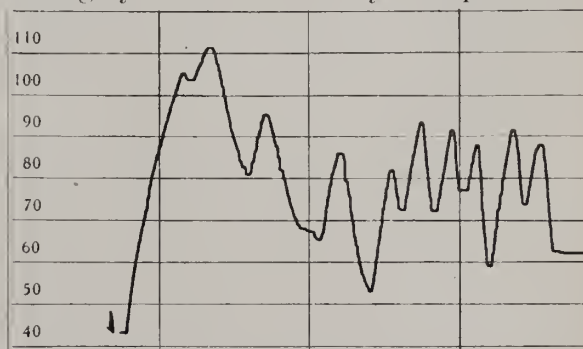


Fig. 1.—Insufflation, normal tubes.

nothing was found to account for their misfortune. I recall another patient who, after having borne a fine healthy child, has aborted repeatedly at about six weeks. These cases probably belong in the ductless gland category and it may not be long before the newer investigations in the sex hormones will clear up such mysteries. I have another patient who had three abortions at about the third month.

*Read before the Manchester Medical Society, Richmond, Va., September 2, 1930.

She had a retroverted uterus and, when this was corrected and kept in place with a pessary, she went to term and had a healthy son. Another case that aborted repeatedly at the 5th to 6th month from kidney deficiency, the so-called *kidney of pregnancy*, had a living child by staying in bed 18 hours out of each 24 during her pregnancy. She has since died of kidney disease, thus vitiating a brilliant therapeutic achievement.

There is another class of sterile patients to which too little attention has been paid. i. e., those who have had Cesarean sections. Gauss, at the last Gynecological Congress, in Leipsic, presented statistics from three large clinics, a total of 2,613 cases, which showed that after a section, 64.3% remained childless.

Within the past month a woman, whose only child was delivered by Cesarean section in 1925, consulted me because she was afraid to have any more children. She wanted my opinion as to whether it were safe to make another attempt. She was anxious for children, but did not want any more sections. Examination showed a strong healthy woman whose only defect was a funnel pelvis of moderate degree.

Such cases, however, while belonging in the sterility class in a larger sense, are not usually included in sterility studies for the reason that they present entirely different problems from the usual case. In the study I wish to present tonight, I have included only one of them, i. e., the case of retroversion treated with a Smith-Hodge pessary.

The treatment of sterility in the past few years has become much less haphazard than it used to be. It consists of a systematic study of both husband and wife and the correction of all possible causes as they are found, until either pregnancy results or, as too frequently happens, the patients lose heart. In this connection, I wish to cite a case as a warning against the false logic, *post hoc ergo propter hoc*. In 1915 a prominent young attorney consulted me because his wife had borne no children. He had been married 7 years and both he and his wife were very anxious for a family. I told him the first step was a thorough physical examination of his wife, with the correction of any likely abnormalities that were found. The second was an examination of his spermatozoa. I did not go any further with the program that is now used, for the Rubin test was not at that time developed nor was the

importance of the metabolic rate then understood, and the biological considerations, such as high proteid diet, and the avoidance of the stress and strain of modern life was unheard of. To make a long story short, the wife did not keep her appointment, because she missed her next period. I have since delivered her of four healthy children. Had I done a Rubin test and found partially closed tubes or even tubes widely open, I would have undoubtedly gotten the credit of curing a case of sterility of seven years' standing.

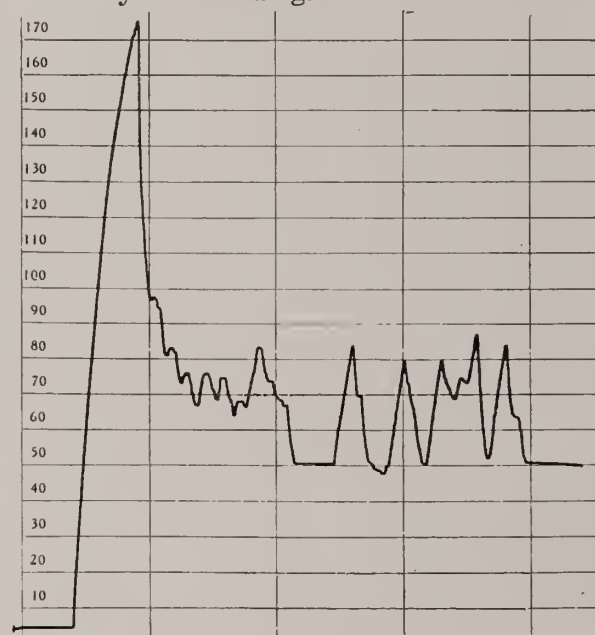


Fig. 2.—Insufflation, spasm of the uterotubal sphincter.

My routine in the study of sterility consists of five steps:

I. History taking and physical examination, with the correction of all possible factors that are disclosed.

II. Examination of the spermatozoa, preferably obtained from the vagina and the cervical canal within an hour after coitus.

III. Tests of the patency of the oviducts either by the Rubin method or by hysterosalpingography or by both.

IV. Metabolism test.

V. Biological, that is, attention to a balanced diet high in proteins and the avoidance of the stress and strain of modern life.

Too often I have not been able to follow this scheme strictly. Out-of-town patients often leave their husbands at home. Sometimes when the spermatozoa are poor it is wise to go at once to step V, and sometimes the metabolic rate has

already been done when the patient is referred to me.

I have been able to collect 103 patients from my records who have been studied and treated with this plan in mind. These patients have varied in ages from 19 years to 48 years. Their average age is 29.6 years. The chief complaint has been sterility, although many have had other complaints also. The duration of the sterility has varied from 1 to 13 years. Sixty-nine had never been pregnant, 18 had borne children and 16 had had only abortions. Nineteen of the patients had been previously curetted usually for dysmenorrhea or sterility. Among the cases of primary sterility retro-position of the uterus was found 17 times, or 24.5 per cent, which is very little higher than Stacy found among normal non-parous women. In the secondary sterility cases a retro-position of the uterus was found 18 times, or 53 per cent, which is considerably higher than Lynch found at postpartum examination of 1,230 cases in San Francisco.

Of the 103 patients, 40 have become pregnant. Twenty-nine of these have borne children. Six have aborted. One has had an ectopic pregnancy and six are now pregnant. Ten cases became discouraged after the first examination. Ten are still under treatment. Of the remaining 43 cases, who might be called failures, 13 cannot be traced.

STEP I.—HISTORY AND PHYSICAL EXAMINATION.—Upon examination, 38 patients were found to have uncomplicated cervicitis, and, of these, 13 became pregnant after treatment (1 ectopic) and two were untreated. In 8 cases there was a cervicitis combined with a retroversion, and in two of these pregnancy followed treatment, and one case is still under treatment. Retroversion uncomplicated was noted in twenty-two cases and in seven pregnancy followed its correction and the use of a Smith-Hodge pessary. One was untreated. There were 4 failures. There was one case of infantile uterus. The uterus was anteфлекed but the relatively long cervix was lying in the axis of the vagina. A Smith-Hodge pessary was fitted so as to direct the cervix backward into the seminal pool. Pregnancy promptly followed this procedure. The remainder, 10 cases of retroversion, as well as 17 of simple cervicitis, 4 cervicitis with retroversion, and 23 apparently normal cases were carried forward to other steps.

STEP II.—SPERMATOZOA TEST.—The 24 cases subjected to this test showed spermatozoa normal in appearance and in numbers in 15 instances; no spermatozoa in 4 instances, and spermatozoa, infrequent and malformed, in 5 instances. It is interesting to note that in one of the latter cases the spermatozoa became normal in appearance when the husband was put on a proper diet and rest regime.

STEP III.—TESTS OF THE OVIDUCTS.—Thirteen patients had patent oviducts and of these 3 became pregnant subsequently. In one of the ten negative cases subsequent examination showed poor sperms, and, if the regular routine had been adhered to, would not have been subjected to this test.

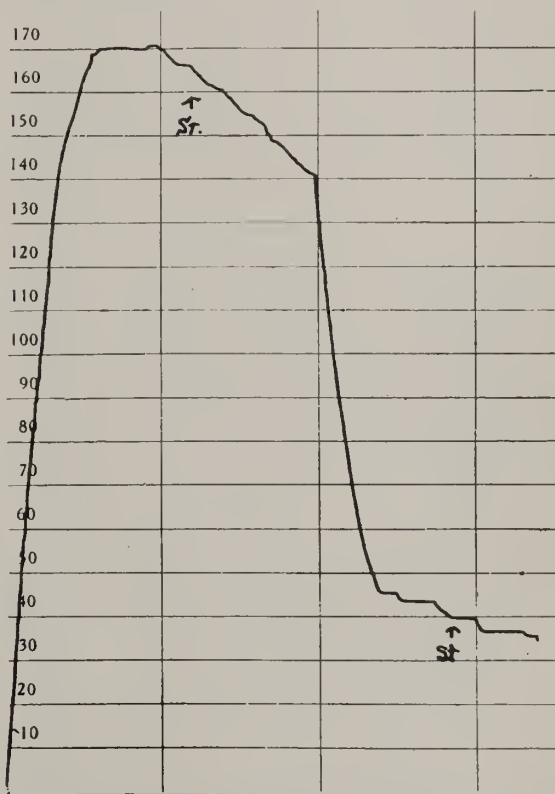


Fig. 3.—Insuflation, permeable stricture. Note that voluntary straining causes no change in the pressure of the gas that is going through the tubes.

In 12 cases there was closure of the tubes. In 3 of these (2 recent cases) only the Rubin test was done. Rubin, by the character and position of the pain that results while the test is being used, can tell the position of the stricture, but I confess that I was unable to do so in these cases. In 6 cases, hysterosalpingography showed a closure at the isthmus. In one of these pregnancy followed. In 3 cases

hysterosalpingography showed closure at the frimbriae, and in all three pregnancy followed.

Twenty patients had a partial blockage of the tubes, and 4 of these became pregnant subsequently. In 3 of these cases, there was a disagreement between the Rubin test and hysterosalpingography. Once when the Rubin test showed closure of the tubes, lipiodol was found in the peritoneal cavity. In this case both tests were repeated several times. In 2 cases the gas went through at pressures above 100 m.m. of Hg., whereas the tubes were impervious to lipiodol. My cases are too few to form any idea as to the relative therapeutic merits of the two procedures.

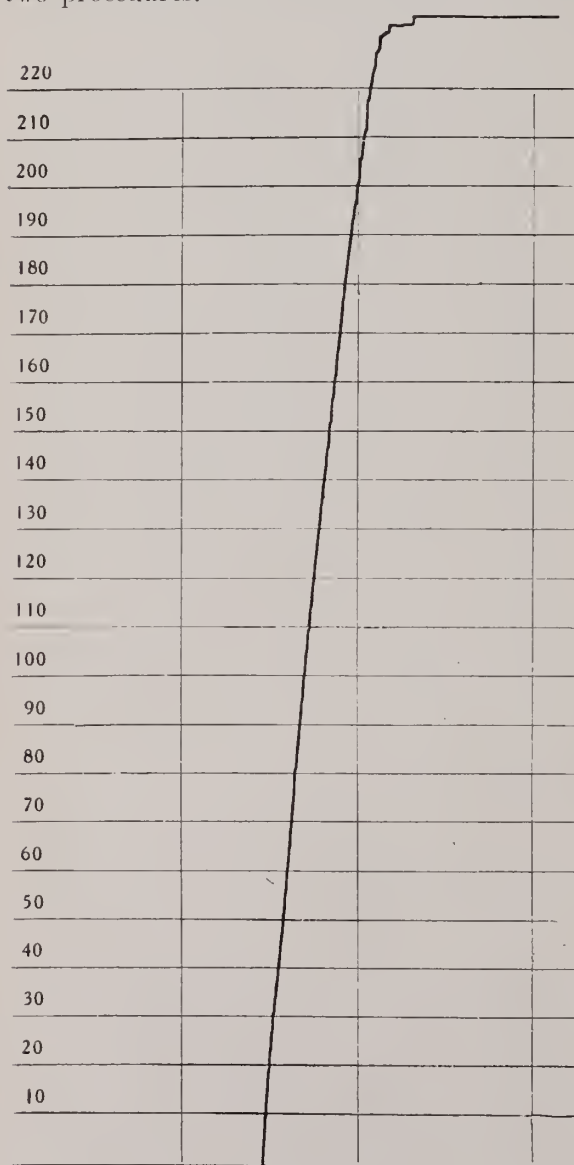


Fig. 4.—Insufflation, closed tubes.

STEP IV.—METABOLIC RATE.—Ten patients were subjected to this test. One patient had a +5 rate, and she became pregnant after repeated lipiodol injections. Nine cases showed a low basal rate. Four of these became pregnant after thyroid extract was started. One case is too recent to expect results and 4 were failures.

STEP V.—BIOLOGICAL.—Two cases, who had no other investigation save a general physical examination, became pregnant after general tonic treatment. In one of these there was the history of salpingitis and the tubes were still tender. In the other there was the history of irregular menstruation and therapy was directed at that without further investigation. At least one of the positive cases under Step III really belongs in this category, and possibly others, as in many cases there was a certain amount of telescoping of the steps.

SUMMARY.

Success in the treatment of sterility depends largely upon the determination of the patients and the persistence with which the doctor searches for all possible etiological factors. A definite scheme is necessary. Often the cause is very obvious but too frequently it is a deeply hidden and little understood endocrine or biological factor. In my cases, success followed the treatment, simply of cervicitis in 32 per cent, and the treatment of retroversion in practically the same percentage. When these conditions were combined, success followed these treatments in 25 per cent. When the tubes were found to be open, pregnancy followed in more than 23 per cent of the cases. When they were found to be partially closed, pregnancy followed in 20 per cent. When they were found to be closed, pregnancy followed in 33 per cent. When the metabolic rate was found to be low, pregnancy followed thyroid treatment in 44 per cent. My cases are, however, too few for the percentages to be of great value.

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Medical Arts Building.

TORSION OF THE OMENTUM PRESENTING SYMPTOMS AND SIGNS OF ACUTE APPENDICITIS.*

By W. BANKS HUFF, M. D., Roanoke, Va.

Torsion of the omentum can no longer be considered a rare affection. Up until 1919 about a hundred cases had been reported and a number since that time. Most cases of torsion of the omentum found in the literature show associated disease of some abdominal or pelvic organ. However, there are some cases reported in which there is no pathology present. But, Reidel¹ says, "Given an instance in which the normal omentum is free from pathology of whatever kind torsion or rotation would probably never occur."

The subject has been studied by Mullen,² and more recently by Hinton,³ who divides torsion of the omentum into three groups:

First: The omentum has in its distal end a mass that is free or has become free through twisting. Mullen thinks hernias play an important role in the causation, as a large percentage of cases in the literature show associated hernia. In a series of 20 cases of torsion, inguinal hernia was present in 19. In cases associated with hernia the abdominal pressure and the efforts of the patient force it to twist. Sometimes there are thickenings in the omentum due to repeated reductions.

Second: Torsion in which the distal end of the omentum is adherent in the hernial sac or about an inflammatory area. In this type the tip of the omentum being attached in the pelvis because of an inflammatory process such as an inflamed Fallopian tube, the organ becomes a sort of a sling and rotates as one may twist a handkerchief by grasping it at opposite corners and twirling.

Third: Cases in which free omentum twists without being the site of a mass or being attached in the pelvis. Payr⁴ explains this by the fact that the veins are larger than the arteries and when the veins are compressed by a kink of some kind they become filled with blood. The arteries form a tense cord about which the omentum turns and, when once started to twist, continues with resulting obstruction to the circulation, and subsequent gangrene.

Susman⁵ has found the condition more common in males than in females. It is more common in the obese and most always associated

with the inflammatory diseases. Of the symptoms, general pain is the first complaint. It comes on suddenly and localizes in the right side of the abdomen. Rigidity and tenderness are found on the right side.

The condition is rarely recognized before operation. Sometimes a diagnosis of intestinal obstruction is made, but as a rule it is acute or subacute appendicitis. In differentiating the condition from appendicitis, a few points are given that might be helpful: Early pain in appendicitis is usually in the neighborhood of the umbilicus but in torsion of the omentum it is found on the right side from the start. Nausea and vomiting are infrequent in torsion of the omentum. A tumor present with appendicitis develops slowly but with torsion of the omentum it develops suddenly. The prognosis is very good if operation is done early.

The following case belongs to group three of Mullen's classification. There was no evidence of hernia, pelvic infection, or any inflammatory process. The appendix was normal.

REPORT OF CASE.

Mrs. G. C. D., aged 28 years, was admitted to the hospital about 4 P. M., October 16, 1929, with a history of having abdominal pain for about twelve hours.

Her general health had always been good. She has had two children, aged 5 and 3 years, both living and well. For about one year the patient has occasionally had fullness after meals but has suffered no acute pain.

Her present illness began about 4 A. M. with cramp-like pain in the right side of her abdomen. She vomited two hours later. The pain continued and at 9 A. M. a doctor was called. He diagnosed her condition acute appendicitis and advised an operation. She at first refused but as the symptoms and signs grew steadily worse, she came to the hospital in the afternoon.

Physical examination revealed a woman about 28 years of age, who appeared to be suffering considerable pain. Temperature 100. Pulse 82. Respiration 22. Blood Pressure 120/72.

Abdominal palpation showed much tenderness in the lower right quadrant over McBurney's point. There was moderate rigidity. No masses could be felt.

Pelvic examination negative.

Urine examination negative.

Leukocyte count 15,000.

*Read at the sixty-first annual meeting of the Medical Society of Virginia, in Norfolk, October 21-23, 1930.

Differential:

P. M. N.	80%
S. M.	15%
L. M.	4%
Baso.	1%

A tentative diagnosis of acute appendicitis was made.

Under ether anesthesia and mercurochrome technique a right rectus incision was made and the abdomen opened. When the hand was placed in the abdomen a mass was felt which on delivery proved to be gangrenous omentum. It was about four inches long and three inches wide and about an inch and a half thick. The mass of gangrenous omentum was excised including about an inch of healthy omentum. The appendix was removed although no pathology was noted. The gall-bladder was examined and found normal.

The omentum was then examined and the lower portion was found to be twisted on itself twice. The gross specimen measured four and one-half inches by three and one-half inches in width.

Microscopic section showed fat tissue that was hemorrhagic. There was a slight infiltration of polymorphonuclear leukocytes.

The patient was discharged from the hospital on October 27, 1929. Her convalescence was uneventful.

CONCLUSIONS.

The above case has been presented to emphasize the fact that in abdominal cases, and mainly those of acute nature where the symptoms and signs are similar to appendicitis, one must always think of torsion of the omentum.

This case belongs to that rarer group where no etiological factor was found to explain the torsion.

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Shenandoah Hospital.

LABORATORY DIAGNOSIS OF SYPHILIS.*

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We have to differentiate between a public health laboratory and one conducted by a hos-

pital, although the dissimilarity is of purposes rather than results. Obviously, the State laboratory and its branches are concerned chiefly with examinations which lead toward the prevention of communicable disease. The private laboratory, on the other hand, strives to determine a disease in order to effect an individual case.

Syphilis is, unfortunately, a disease whose spread can be prevented only by curing. That is the only practical way of viewing the situation. Therefore, when considering this disease, the function of the public laboratory has a minimum of dissimilarity with the private institution.

However, the public laboratory is necessarily interested in the diagnosis of syphilis in the population as a whole rather than in the individual whose blood is sent for examination. Public measures for the control of syphilis will be determined by the percentage of syphilis in the general population. Consequently we would like to know whether the physician forwarding the specimen is doing so as a matter of routine or is satisfying himself merely in regard to a doubtful case.

The laboratory examination of blood serves two important purposes; 1st, as an invaluable aid in diagnosis of syphilis, and 2nd, as a guide in treatment.

Indefinite symptoms and clinically unrecognized cases constitute a considerable proportion of the cases of syphilis, and, as is true in all other infections, this class constitutes the greatest menace to public health.

The introduction of the Wassermann test represented a great advance in the diagnosis of syphilis. It has been widely used and is generally accepted. Recently, there have been developed a number of precipitation tests which have in many instances proved their value and have taken their place along side of and co-ordinate with the Wassermann test. Because of the simplicity of these new tests they have in some instances replaced the more complicated Wassermann test.

Several years ago we made a study of the Kahn Precipitation test as compared with the Wassermann test. Five thousand sera were tested for complement fixation and precipitation. It was easy to compare the two tests as the results are recorded by the same enumeration.

There was complete agreement in 88 per cent

*Read by title at the sixty-first annual meeting of the Medical Society of Virginia, in Norfolk, October 21-23, 1930.

of the specimens. In 6.5 per cent there was a difference of one point. There was complete disagreement in only .6 per cent.

The best material for dark-field examination is to be found in clean, young, untreated lesions. Careful removal of necrotic debris

	<i>Wassermann more sensitive</i>	<i>Kahn more sensitive</i>	<i>Total</i>	<i>Per cent</i>
Difference of 1 point -----	142	185	327	6.5
Difference of 2 points -----	51	119	170	3.4
Difference of 3 points -----	14	60	74	1.5
Difference of 4 points -----	1	27	28	.6
Total -----	208 or 34.7%	391 or 65.3%	599	

Two different workers making Wassermann tests would probably not agree any closer than this. After doing this comparative work we believe the Kahn Precipitation test is slightly more sensitive than the Wassermann test and just as specific.

We are now making the Kahn Precipitation test in the branch laboratories in place of the Wassermann test. Because of the simplicity of this test it can be made every day if necessary. When the Wassermann tests were made in the branch laboratories they were made only once a week.

We are also interested in the slide precipitation test, and have made some studies of the Kline Slide Method. We do not feel justified in making a report on this work as our series of comparative tests is too small.

While all the laboratories of the State Department of Health are equipped to make the dark-field examination, we have had very few requests for it. The laboratories in Richmond and Norton are located in office buildings so are not conveniently located to do work of a clinical type. The two laboratories located in hospitals at Harrisonburg and Nassawadox have every facility for doing this work, still they have very few requests for the dark-field examination.

The dark-field examination can best be made in the doctor's office because time is a main factor in this style of examination. Probably every doctor has a microscope and the dark-field condenser can be attached.

The inexperienced worker, in dark-field examinations, should be very cautious in regard to lesions about the mouth, as the mouth spirochetes resemble very closely the spirocheta pallida. The spirochetes most likely to cause confusion are the spirocheta microdentium (or dentium), the spirochete of Vincent's angina, and the spirocheta refringens. If the dark-field material is from genital lesions the chance of errors referred to above is reduced.

and crests from the surface of lesions practically eliminates spirocheta refringens.

INTERPRETATIONS OF WASSERMANN AND KAHN TESTS.

The laboratory test, either Wassermann or Kahn, is not diagnostic, but is evidence that can be used in making the diagnosis. In every instance the results of the test should be interpreted in the light of the clinical data. Where the results of laboratory tests cannot be readily interpreted in the light of the clinical evidence, a second specimen should be submitted.

The fact that the Wassermann test is not a specific immunity reaction does not materially impair its usefulness.

The antigen employed is a physiological lipid and not a product of spirocheta pallida. Still the reaction is positive if antibodies adapted to the antigen employed are contained in the blood serum of the patient. With these facts in mind we should not be surprised occasionally to find reactions which do not check up with the clinical data.

A reaction of marked intensity (3+ or 4+) is, we think, rarely obtained except in cases of syphilis.

In general, a slight or partial reaction (as 1+ or 2+) should not be considered significant unless there is definite clinical evidence that the case is one of syphilis. In a known case of syphilis which had had treatment such a reaction would indicate that further treatment should be given.

The diseases other than syphilis* which may cause positive Wassermann reactions are: frambesia or yaws, leprosy of the tuberculous type, malaria, relapsing fever, general anesthesia, pellagra. Other diseases seldom mentioned† as having caused positive reactions are: tuberculosis, acute exanthemata, pneumonia, septicemia, trypanosomiasis, advanced malignant cachexia, pernicious anemia, Weil's disease and diabetes.

In most of the diseases causing positive reactions the clinical symptoms are so marked that they may readily be differentiated from syphilis.

Negative reactions occur in scarlet fever, also after the patient has taken even a moderate amount of alcohol.*

Anti-complementary reactions may be caused by some substance in the patient's serum which has the power to fix complement in the absence of antigen. More often it occurs in old or badly contaminated serum and is probably due to changes caused by the growth of bacteria.

There are several things which should be mentioned about the manner in which specimens should be submitted to the laboratory.

First—is the advantage in using our container, which conforms to the postal regulations. Upon request this container will be sent to any physician in the State of Virginia.

Second—the importance of filling out the blank which is found in the container. Unless this blank is filled out we do not know whether the examination is being made in order to aid in the diagnosis or as a guide in treatment. If we make more than one test and there is a difference in results of the several tests, we do not know which results check best with the clinical findings.

During the year 1929 our laboratory in Richmond made 35,851 Wassermann tests, only 2,127 were marked as treated. In this treated group the per cent of positives (3+ and 4+) was 23.4 per cent. This compares with a positive percentage of 13.3 per cent for total specimens examined.

*Note—Infection, Immunity and Specific Therapy—Kolmer, 2nd Ed., Page 491.

†Note—Practical Bacteriology, Blood Work, Parasitology, Stitt, 8th Ed., Page 236.

BRONCHO-MONILIASIS.*

By FREDERICK W. SHAW, M. D., Richmond, Va.
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Affections of the bronchi and lungs due to *Monilia* Persoon, 1797, were first described by Castellani in Ceylon, in 1905. Since that time numerous papers on the subject have appeared in the literature.

The genus *Monilia* Persoon, 1797, is usually defined as Oösporaceae possessing *in situ* budding forms and mycelial threads, which latter are often long and branched; in cultures

mostly budding forms, but sometimes filaments, in which thallospores of the blastospore type are formed. Dextrose and often other carbohydrate media fermented with the production of gas.

The affection appears to be world-wide. Cases have been described from France, Egypt, South Africa, India, Italy, England, and America. In this country the number of cases reported has been on the increase in recent years.

Following the earlier report of Boggs and Pincoffs,¹ Steinfeld² isolated species of *Monilia* from cases of asthma and chronic bronchitis. The writer³ isolated, from a case of pseudo-tuberculosis, a species of *Monilia* which differed from *M. albicans* in that it does not form a honey-comb growth on dextrose, does not coagulate milk, and presents a very different appearance during the development of the moniliform clusters. The specific name *richmondi* was suggested for this organism. Kotkis, Wachowiak, and Fleisher⁴ have found *Monilia* in the sputum in five of fourteen cases of bronchitis associated with moniliasis. Gilbert and Groesbeck⁵ isolated species of *Monilia* from the sputum of eleven patients with the symptoms of pulmonary tuberculosis. Stokes, Kiser, and Smith⁶ report two cases of extensive chronic interstitial pulmonary fibrosis. The tubercle bacillus was not demonstrated in the sputum, but an organism of the genus *Monilia* was isolated from both cases. These authors classified their *Monilia* as *albicans*, temporarily, although it differs from *M. albicans*, Robin, 1853, in its growth on agar slants.

On account of the wide distribution of the members of the germs *Monilia*, it is essential to bear in mind that the presence of a given monilia in the sputum should not be considered in itself sufficient to establish the diagnosis of moniliasis. When a monilia is found in fresh sputum, after all precautions to avoid contamination have been carried out, Castellani⁶ outlines three possibilities:

1. The monilia, though present in the expectoration, is not virulent and not pathogenic, and lives saprophytically in the bronchi. In such an event, the monilia inoculated intravenously into a rabbit will be found to be non-virulent, and when inoculation is intrapulmonary, it will produce no lesions in the lungs and no general infection.

2. The monilia, though virulent, may repre-

*Read before a joint meeting of the Richmond Academy of Medicine and the Richmond Dental Society, November 26, 1929 under the title "Some of the Less Common Diseases of the Respiratory Tract."

sent only a secondary invader, a secondary infection; in this case, the intravenous injection of the fungus will kill the rabbit; and the intrapulmonary injection will not cause any localized nodular affection in the lungs, but it will induce a general septicemia from which the animal will die.

3. The monilia is the real cause of the broncho-alveolar condition; in such cases, the intrapulmonary injection into a rabbit will produce a very characteristic nodular condition of the lungs. When the animal dies spontaneously, or is killed fifteen to twenty-one days after the intrapulmonary injection, both lungs (the one injected and the other in which no injection was made) are found to be studded with a large number of white nodules containing the fungus. These white nodules are about $\frac{1}{8}$ inch in diameter. In the intervening lung tissue there are signs of congestion, but no pneumonia.

The pathogenicity may be illustrated by the animal experiments reported by the writer in a previous paper.⁷ With the monilia used, inoculation into the peritoneal cavities of rabbits and guinea pigs produced no lesions. When injected into the circulation of the rabbit there developed, about the fifth day, tetanoid convulsions of short duration, followed by the death of the animal. Necropsy showed the kidneys enlarged and studded with small, whitish granules; the liver, stomach wall and omentum contained similar granules. The organism was recovered in pure culture from a number of the lesions. The guinea pigs received the injections intracardially. Convulsions with paralysis of the hind legs developed on the fifth day, death following in a few hours. Necropsy showed that the same pathologic changes had occurred as in the rabbit.

Stained histologic sections of the rabbit's kidney showed the whitish granules to be due to accumulations of the fungus.

Intrapulmonary injection into the rabbit produced a caseation and necrosis of the lung at the site of injection; later, a general septicemia resulted with lesions similar to those described.

Clinically, the disease may vary from a very mild type to a very severe one. In the mild type the general condition of the patient is good; there is no fever, the expectoration is mucopurulent, often scanty, and contains no blood. Physical examination of the chest may

be negative, or a few rales may be heard. The condition may last for a few weeks or months; it may heal spontaneously, or it may continue into the severe type.

The severe type closely resembles pulmonary tuberculosis. The patient becomes emaciated; fever is present; the expectoration is often bloodstained, and physical examination of the chest may reveal patches of dullness, rales and pleural friction sounds. This type often ends fatally.

As an illustration of a case of bronchomoniliasis, the following summary is given (for full report see Reference 7).

The patient had experienced stiffness and soreness from the neck downward to the knees, for the previous three months.

Physical examination revealed some dullness over right front of chest, which extended downward to the fourth rib. Posteriorly, the dullness extended to near the angle of the scapula. Tubular breathing was heard over the upper portion of the right lung, extending downward to the third rib anteriorly, and below the spine of the scapula posteriorly. Occasional rales on coughing were heard throughout the right lung. Rales were occasionally present in the upper left lung. Tubular breathing was noted at left apex, while there was pectoriloquy over both apices.

The patient did not have the appearance of being acutely ill. There was very little sputum and cough; no chills and no sweats.

X-ray of the chest showed an apparently well-advanced tuberculosis involving the upper right lobe. This had progressed to consolidation from the apex downward to the level of the second rib. The condition did not appear healed.

Examination of the scanty sputum failed to show the tubercle bacillus, either by microscopic examination or by guinea pig inoculation. The sputum contained small, firm, white granules which, when crushed under a cover-glass, were found to be composed of thickly matted threads and yeast-like bodies. These granules were planted on maltose agar and the monilia isolated.

The temperature on admission was 100° F. It varied from 99° F. to 100.2° F., and became normal after receiving seven drops of a saturated solution of potassium iodide three times a day for two weeks.

While the case cited above responded mark-

edly to iodide, it should be borne in mind that in some cases iodides have no beneficial action whatever.

The diagnosis is based on the absence of the tubercle bacillus and the constant presence of the monilia in the sputum. In most of the cases the microscopical examination of the stained slides of the sputum will show roundish or oval yeast-like cells and occasionally some portions of mycelial threads. In other cases, the slide preparations are negative and the organism can be found only by cultural methods.

The classification of the species of the genus *Monilia* is in a state of chaos. Castellani has suggested a classification based on the fermentation of carbohydrates, but this does not appear to be all that is desired. The writer^s has suggested a classification based on morphology.

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THE CONSIDERATION OF POSTURE IN SCHOOL CHILDREN.*

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Every growing object, whether it be animal or vegetable, is influenced by surrounding circumstances. If the circumstances are favorable, the growth is toward perfection, if unfavorable, it is in the direction of deformity. However, by changing the unfavorable circumstances, the growth may be headed in the direction of good formation. Bearing this in mind, we can see the importance of prevention of deformity in the child, or, if deformity has already occurred, the early correction of it. This can only be done by a thorough check up

at an early age and supervision during the stages of growth. Since the child spends the greater part of the growth period in school, it seems the most logical conclusion that the examination and supervision be carried on through the school.

The child with good posture is more likely to be the healthy child. It is the healthy child who receives the most benefit from school. This is not only due to more regular attendance, but also to a keener mentality.

Good posture should be assumed with ease. The individual, when standing, holds the head erect, chin in, chest up, abdomen flat, hips and knees straight, but not stiff, with the feet in a straight line from heels to toe, the weight falling on the ball and outer edge of the foot, using the heel to balance. The spine has three normal curves, two forward and one backward. If all of the points of good posture are maintained, the normal curves of the spine are assumed. If a straight line were drawn perpendicularly from immediately behind the ear it should pass through the shoulder, hip and ankle joints. When sitting, the body should form two right angles. The head to the hips forms the upright and the hips to the knees forms the base of the first, the knees to the ankle forms the upright and the ankle to the toes forms the base of the second.

Take the child with *bad* posture. He thrusts his head forward, sometimes causing a sight defect because he must look at things with the eyes rolled upward to adjust his vision to the abnormal angle at which the head is held. The muscles going from the base of the skull to the upper back are strained and frequently become painful or cause a feeling of fatigue. His chest, instead of being rounded, is flat, pointed, or may even have a well defined depression. The under-development of the chest interferes with his respiration, lowering his vital capacity and making him more susceptible to all types of respiratory infections. It also crowds the heart, keeping it from carrying on its normal action. His abdominal muscles sag, allowing the abdominal organs to drop and crowd one another. This causes indigestion and constipation, which encourages the growth of harmful bacteria in the intestinal tract. The poisons produced by the bacterial growth are absorbed by the tissues, causing fatigue, headache, and many diseases of

*Read before the Parent-Teachers Association, Danville, Va., May 23, 1930.

the joints and muscles. The normal curves of the spine are exaggerated, causing the supporting muscles and ligaments to be stretched, producing a constant strain; this produces fatigue, and, finally, pain. If the strain falls on the lower spine, the pelvis is tilted forward to shorten the distance, which relieves the stretching but causes a further relaxation of the abdominal muscles. He allows the trunk to flex at the hip joints, tilting the pelvis forward, and, to maintain the balance, the upper spine is thrown backward. Flexion of the knees allows the muscles in the back of the thigh to contract, throwing a strain on the long back muscles.

Improper weight-bearing upon the feet throws the body off balance and bad posture results because of the effort to compensate for the unbalanced weight. Improper weight-bearing on part of the feet is usually due to an effort to relieve discomfort caused by flat feet, depressed anterior arches, corns, callouses, or bunions.

Frequently the cause of under-weight is due to bad posture rather than an actual lack of food. The nervous child can often blame bad posture for his condition and not infrequently is cured by the correcting of his postural defects. Faulty posture weakens the general condition, making the child more susceptible to disease.

It is well to know the most common causes of bad posture. The two which are probably the most frequent are: habit and ignorance. By habit we mean the unconscious position which is assumed, as sitting on one foot or with knees crossed, sitting humped over when reading or working, or slumping down on the chair, standing with the weight on one foot, and standing with the arms locked behind the back. Through ignorance on the part of the individual or of the instructor, who has not kept up with the progress made in this field, bad posture is often acquired. The child is told to stand straight and hold the shoulders up. He immediately assumes a position of hyper-extension of the spine with the shoulders thrown back in an exaggerated manner, or he throws the shoulders back and tilts the pelvis forward. Years ago the position of attention taught in the schools was to hold the arm across the back just above the hips. This caused the pelvis to be tilted forward and the

shoulders thrown back. Many cases of lordosis resulted from this method. The modern method is to tell the child to stand tall.

Occupation plays a large part in creating bad posture. This is especially true with growing children who are employed. Most machines are made for right-handed people. The work being done mostly with the right side causes the muscles on the right to become stronger than the left; with the constant bending to the right, the spine assumes that position, causing a left curve. The individual who sits at a desk working all day has a tendency to allow the head and shoulders to droop forward. The chest muscles soon become contracted, preventing the shoulders from being straightened, and the same is true of the neck muscles. The muscles in the front of the neck become contracted, and due to the constant stretching of the muscles in the back of the neck, the muscle tone is decreased, thus causing a constant thrusting forward of the head.

Both in industry and schools, seating of the individuals should be given close attention. If the seat is too low, slumping occurs, especially in schools where this is necessary to compensate for lack of height in the desk. The child either slides down and sits on lower end of the spine, or he bends over the desk. If the seat is too high to allow the feet to touch the floor, the individual becomes tired and slumps down to relieve the muscular strain caused by fatigue. When the child is unable to work on the desk comfortably due to its being too high, he sits on one foot to raise himself. This causes a curvature of the spine.

Seats should be placed at a height to allow the feet to rest comfortably on the floor but not to cause the knees to bend at more than the right angle.

Certain individuals have defects in sight or hearing. When one eye or one ear is affected, the head is held forward and twisted to the opposite side. This may cause one of two things—wry neck (head twisted to one side) or curvature of the spine. If both eyes or both ears are affected the head is thrust forward, thus developing the forward thrust of the head, with round shoulders to maintain balance.

There are some defects with which an individual may be born. These are called congenital defects. Some these responsible for bad posture are: one leg shorter than the other,

elevated scapula (shoulder blade), wry neck, dislocated hip, malformation of the vertebrae, or deformity of one arm, which causes over-development of the opposite side.

Present day styles have less tendency than those of the past to cause bad posture. The tight waist band restricts breathing and forces the abdominal organs down into the pelvis. Clothing should be hung loosely from the shoulders. Shoes have been and still are the greatest offenders. High heels throw the weight on the fore-part of the foot. This throws the center of gravity forward, thus upsetting balance. The knees are at first bent, but as the muscles in the back of the leg contract, the knees are straightened. When the high heels are removed, the muscles which have contracted to take up the slack in the back of the leg are too short and become painful. To relieve this the strain is thrown on the long back muscles, which become fatigued, and then they too become painful. Any ill-fitting shoe causes improper weight-bearing, which throws the body off its natural balance. However, in spite of the majority of people wearing improper shoes, the past few years have shown a decided increase in the demand for proper shoes.

The proper shoe has a broad, flat heel. The height of the heel should be adjusted to the individual. The inner sole is straight and the toe of the shoe should be somewhat rounded to give plenty of room for the toes to spread out. No one make of shoes is suitable for all types of feet. Several makes of shoes should be fitted and the one most suitable to the individual foot should be worn.

Disease is an important factor in producing bad posture. Pneumonia, diphtheria, and infantile paralysis are the most common. However, all diseases weaken the muscles, and, unless care is taken to prevent it, bad posture results. The building up of the general system and the prevention of fatigue are most important where this condition arises.

The first step in the prevention or correction of deformity is a thorough examination. We first determine the type of child—whether he is the carnivorous type, having a long slender back which is prone to low back injuries; the herbivorous type, having a stocky build with broad short back and inclined to roundness in upper back and shoulders; or the omnivorous

type, a compromise between the long and broad backs, which is most likely to have sway-back.

After having classified the child, we begin our examination with the head, noticing whether it is held erect or not. Next, we look at the neck to see if it is being bent to either side. Then, the shoulders—are they level or are they drooping forward, or probably the one is being held back further than the other? The chest comes next. We notice the shape, as to whether it is round, flat, or full, and whether it protrudes or recedes. The abdomen is examined as to whether it is flat or protrudes. In examining the spine, we look for: 1. *Hyper-extension*—a swaying backward of the spine as a whole upon the pelvis; 2. *Lordosis*—or sway-back, which shows a tilting forward of the pelvis; 3. *Lateral curvature*—bending of spine sideward, and, 4. *Dorsal round back*—commonly known as hump back. Next, the hips are examined to see whether they are level and whether one is more prominent than the other. The knees are examined for knock-knees and the legs for bow-legs. We finish the examination with the feet, where we look for: 1. *Eversion*—turning out of the feet; 2. *Pronation*—rolling in of ankles; 3. *Depression of the anterior arches*—the arch across the front of the foot that forms the indentation between the great and fourth toes; 4. *Flat foot*—depression of the long arch on the inner edge of foot; 5. *Corns*; 6. *Calluses*, and, 7. *Bunions*.

Every deviation from the normal is recorded and a general grading is made of the posture, according to the following classification:

A. Good posture—as described previously.

B. Fair posture—one simple postural deviation, or a 1° foot deviation or both.

C. Bad posture—complicated postural deviation, or a 2° foot deviation or both.

D. Very bad posture—complicated postural deviation, and 3° foot deviation.

We felt that those having an A posture are eligible for classes in general gymnastics. The B Class may take postural exercises in groups, according to deviation, under supervision of the Orthopedist. Those whose deviation is a hyper-extension of the spine are in one class; those having lordosis are in another; and the simple (functional) curvatures, which are classed as to left or right curves, are grouped accordingly. The children having dorsal and total round backs may be in groups,

but should be more closely supervised by the Orthopedist. Children having foot conditions of 1° may be grouped for exercises according to deviations. The ones having C and D grades should be given individual attention immediately under charge of the Orthopedist.

The general condition being closely associated with posture is due considerable attention. The conscientious engineer is not going to use defective materials in his structure. The same is true in building body posture. We must have the best material available for the individual. To obtain good material, we must have a good general condition. This is possible through rest, proper food, fresh air, sunshine and correction of physical defects.

After the grouping has been completed, we have certain general rules to be applied to the treatment of each group. The groups having individuals without curvature of the spine are given symmetrical exercises, while those with simple (functional) curves have asymmetrical exercises after the anteroposterior (front to back) posture has been corrected, providing that the curve remains, the asymmetry being governed according to direction taken by the curve. Frequently a functional curvature is cured by correction of the individual's bad posture.

Persistent cases of bad posture associated with weak musculature should be treated by a combination of exercises and support. Cases of curvature of the spine, which fall in the classification of structural and transitional scoliosis, should be treated in this manner. The support may be a corset which has been reinforced, a steel brace, or a plaster jacket. All of the supports, of course, are applied under the direction of the Orthopedist.

Where large groups are being handled, it is impossible for the individual treatment to be carried out personally by the Orthopedist; therefore, close cooperation between the Orthopedic Staff and the department of Physical Education seems advisable. The treatment could be carried out through supervision of the room teachers by the Physical Education Department and supervision of the whole by the Orthopedic Staff.

A certain amount of time is spent in practically every school for exercise. If this time were used for a constructive period of postural work, a great deal could be accomplished

with a small amount of energy and effort expended.

During this past winter several hundred children were examined by us in the schools of Danville, Va. The following statistics will show how great is the need for a close supervision of posture in the growing child to prevent disability in adult life:

Grade A. Postures	-----	89		
Grade B. Postures	-----	304		
Grade C. Postures	-----	238		
Grade D. Postures	-----	69		
	Total	Boys	Girls	
Total No. of Examinations	700	328	372	
1. Head (forward thrust)	87	30	57	
2. Neck (deformity)	1	1		
3. Shoulders (round)	111	49	62	
4. Chest				
Funnel	3	2	1	
Pigeon	10	8	2	
Flat	309	107	202	
5. Abdomen (protruding)	48	31	17	
6. Spine				
Hyper-extended	275	102	173	
Lordosis	31	14	17	
Round				
Dorsal	302	127	175	
Total	35	9	26	
Scoliosis				
Functional				
Left	47	19	28	
Right	18	10	8	
Structural	15	4	11	
Transitional	6	4	2	
7. Feet				
Eversion				
1°	13	12	1	
2°	6	6		
3°	3	3		
Pronation				
1°	127	62	65	
2°	265	100	165	
3°	13	10	3	
Depressed anterior arches				
1°	23	13	10	
2°	4	2	2	
3°	3	2	1	
Flat feet				
1°	75	29	46	
2°	196	58	139	
3°	56	21	35	
Tight tendo-Achilles	437	158	279	
Calluses	4	3	1	
Corns	10	2	8	

A note was sent to the parents of every child who had a deviation from good posture. This note advised that the child should be placed under treatment, and was signed by the examining Orthopedist. It was left to the discretion of the parents as to whom the child should be taken for treatment. The notes were written during the latter part of March, and by the first of May, when an unofficial check up was made, about one hundred children had consulted a physician.

SOME OBSERVATIONS ON A RURAL TONSIL-ADENOID CLINIC HELD AT SELMA, NORTH CAROLINA.

By J. B. H. WARING, M. D., Cincinnati, Ohio.

Several years ago, Dr. Wade H. Atkinson, a prominent physician of Washington, D. C., but a native of Johnston County, North Carolina, somewhat southeast of Raleigh, made one of his periodic visits to the land of his birth. Although many years a resident of Washington, Dr. Atkinson had never forgotten his love for his home folks and the land of his birth. In his early youth he taught school in Johnston County; he was related to a great many people there and had the warm personal acquaintance of a great many more. A library for his former county school, and his many benefactions to the good people of Johnston County, naturally endeared him to these people and they naturally took great pride in their home boy who had made good in the great city,—certainly a situation for mutual admiration, affection and respect.

Johnston County is a large rural section of rather flat, somewhat lowland, and is perhaps not so heavily wooded or watered as other sections. Cotton and tobacco seem to be the principal crops with the boll weevil on one hand and low tobacco prices on the other, it is not a land of great wealth. However, the people are of fine native American stock, although they are largely impoverished and the standard of living could be greatly improved all through these rural areas. The same general picture could be obtained from portions of almost any of our Southern states—some better, and some less so.

Dr. Atkinson was impressed with the large number of these rural children who were sadly in need of tonsil-adenoid removal, as well as in need of other physical and hygienic assistance. Importuned to do something for these soon-to-be men and women of his home county, in 1928 Dr. Atkinson organized a tonsil-adenoid clinic at Selma with the assistance and cooperation of his many local friends, and personally operated on some 230 children in need of attention. He gave about a week to this work, and how he stood up under the physical and mental strain of this work is a mystery to me. The labor over-taxed his physical resources evidently, for several weeks after returning to Washington he became incapacitated from a cardiac dilatation, which

compelled his virtual retirement from active medical practice. About this time a personal friend in Washington, D. C., sent me a newspaper account of this remarkable clinic of Dr. Atkinson's, and I wrote the doctor to express my admiration of his work and to state that I would be pleased to assist in some such good work if opportunity ever developed in the future. As I recall, the doctor wrote to thank me for my good wishes, etc., and the incident had about escaped my memory. Sometime during the present year, however, I received a letter from Dr. Atkinson, written, I think, from Paris, France. In it the doctor stated that he had been in Europe for almost two years on account of his health, but that he was improved and contemplated an early return to this country. Further, he inquired if my offer of several years ago to assist him in his work for these needy North Carolina children still held good. I assured him that it did, and arrangements were made to hold this charitable tonsil-adenoid clinic at Selma, N. C., September 1, 2, and 3, last.

All necessary clinical arrangements and supplies were prepared for in advance by Dr. Atkinson and his associates, with the cooperation of county school officials and the local Parent-Teachers' Association, through whom the large, modern consolidated school building at Selma was temporarily turned over for hospital usage.

Through error in route I arrived in Selma somewhat late on the morning of September 1st, and it was close to 11 A. M. when I reached the school building and found everybody in readiness and waiting. I had been under the impression that the work would be done by two or three operators working in turn, but found I was to be the "George" of the occasion. I brought with me a portable duplex suction pump, but through some jar en route a screw was broken and the pressure side of pump was out of commission. Likewise, a local ether-vapor-suction pump refused to function smoothly, so the work was somewhat handicapped for the first few cases. The office of Professor Waters, Principal, was kindly turned over as an operating room, and his adjoining anteroom converted into an anesthesia room. Classrooms were converted into temporary wards, as well as a large auditorium. Cots were furnished, but patients were required to bring sheets and pillows, and each child listed

for operation was required to bring a certificate from his physician that the parents were financially unable to pay for operation.

Two graduate nurses from Sibley Hospital, Washington, the Misses King and Bartholomew, had active charge of the operating room; while a Miss Bragg, local graduate nurse, took charge of the wards and also functioned overtime as night nurse. Assisting them were a considerable group of local ladies and gentlemen, who rendered yeoman service. Everywhere the spirit of assistance and earnest co-operation was manifest, and to this wonderful spirit must be attributed in large measure success of Dr. Atkinson's fine efforts to aid these good people. Almost as active in the work as Dr. Atkinson was his young niece from Washington, who volunteered for the work, as did Dr. R. M. Ellyson, also of Washington, and the two most efficient graduate nurses. Drs. Vick, Person, Booker, Orr and Massey, of Johnston County, gave wonderful cooperation and assistance, as did Mrs. E. V. Woodward, President of the Selma Parent-Teachers' Association, Professor Waters of the School and, in fact, all Selma.

All operations were by the suction technic. After four or five cases had been operated with the crippled air pump the first morning, lunch time caused an adjournment. By afternoon a local mechanic had repaired the pump and the work began to proceed smoothly from then on, some thirty cases being operated this day. Two doctors and their lay assistants took care of anesthetization, all operations being under general ether anesthesia. Dr. Atkinson had taken an ordinary rigid type ironing board and converted it into a most efficient operating table for tonsil-adenoid work, thus avoiding the necessity of moving a heavy operating table to and fro. A group of high school boys, who called themselves "the pallbearers," worked hard and steadily, moving the anesthetized patients to the operating table, and carrying them to the designated ward after operation. The anesthesia work was excellent. A comparatively light anesthesia was employed throughout, with ether vapor from the suction pump used after mouth-gag was placed. Patients ranged in age from four to eighteen; some of the older patients could have been operated on with local anesthesia, but this would have slowed up the work so much that none were operated under local. As a general

thing, these older and larger patients might have been best operated in a separate group, as they required far longer to anesthetize and required more attention during reaction from anesthesia than the smaller children.

No bleeding of any moment was encountered in any of the series of some 150 cases operated. As soon as a tonsil was enucleated, the empty fossa was filled with cotton tampons under pressure, changed several times until it was seen the fossa was dry. Dr. Atkinson had thoughtfully ordered calcium medication in advance and most of the patients received this. No cases left the table until their throats were free from oozing; occasionally an oozing point was compressed with a tonsil hemostat, but no sutures were found necessary. Every effort was made to see that the fossae were clean; any bits of tonsil tissue missed with primary enucleation were snipped out with the snare, especial attention being given to lymphoid tissue at bottom of the tonsil fossae and along tongue margin. One or two children were replaced on the operating table for slight oozing during recovery from anesthesia; cotton tampons dipped in thromboplastin proved quite effective after any clots were removed from fossae. There was no undue bleeding from adenoid area in any of these cases. At night the children were left in charge of Miss Bragg, one of the local doctors kindly stopping over whenever called to see a particular case. Most of the children had been taken home by the next morning.

Some forty children were operated the second day of the clinic, and fifty odd the third day. Second day of the clinic, one of the efficient Washington nurses, Miss King, developed acute appendicitis and was rushed back to Washington that night for immediate operation on arrival, being accompanied by the second nurse, Miss Bartholomew. Two excellent surgeons, Drs. Orr and DeVidia and a well-equipped hospital were available at Smithfield some five miles from Selma, but the patient, Miss King, wished to return to her home hospital if possible.

It appeared loss of our two efficient operating nurses would sadly handicap the work, but the emergency was met by Mrs. Ed. Woodall, of Smithfield, a most excellent graduate nurse, who, though no longer engaged in her profession, graciously volunteered to help out, and a tower of strength she proved in the work—

so much so that the next two days' work proceeded as smoothly as the first two.

The final morning saw but twenty-five cases booked for operation, and these were run through with rapidity. Had time and facilities been available, almost as many more of these needy children could have been taken care of; and Dr. Atkinson has been invited by the good people of Selma and of Johnston County to make his philanthropic work an annual one.

The night before our departure from Selma, Dr. Atkinson and our associates in the clinic were tendered a typical Southern barbecue supper at a nearby lake resort. With the soft moonlight filtering through stately pines, and the long line of well-filled open air tables, the gracious hospitality and words of appreciation from the good people of this section must have made Dr. Atkinson feel well repaid for his good work—good work and hard work—and I know it left an impress upon the writer that will long be remembered.

To judge by the situation in Johnston County, North Carolina—and I am confident the same appalling need must exist in many of our Southern sections—there must be an enormous amount of this work which could be done and should be done if it is just brought to proper attention. These children are our men and women of tomorrow; and if we can give them any help in preparation for the life work which they must take up as we of the present generation lay it down, it is to my mind commendable enterprise. The medical profession has never been backwards about giving assistance freely and whole-heartedly to the needy; and I am confident that the physicians of Virginia and of neighboring Southern states stand ever ready to do all they can.

It was, indeed, a pleasure and an honor to assist the good Dr. Atkinson in his most commendable enterprise for these North Carolina children; and I think the work amply demonstrates the need and the possibilities for good in such work in many rural sections. While, of course, desirable, elaborate hospital facilities for such work are not so imperative as for other surgical work, not that we should be lax in our technic at any stage, but, with a little improvisation, adequate facilities can be developed in almost any small town or village today.

If there was anything that might have given

me more pleasure than the work for these young sons and daughters of North Carolina, I think it might have been to be of some similar assistance to some of our Virginia children similarly situated, white or black as well; for truly has it been said, "Once a Virginian, always a Virginian."

Woman's Auxiliary, to the Medical Society of Va.

Eighth Annual Report.

As a preliminary to the meeting, the Executive Board of the Woman's Auxiliary to the Medical Society of Virginia met at the Monticello Hotel, Norfolk, Va., October 22, 1930, 10:30 A. M. This was followed by a delightful luncheon at Pine Tree Inn, Virginia Beach, and later by a shore drive to Cavalier Hotel and Cape Henry. In the evening, a buffet supper and dance was given at the Norfolk Country Club.

The general meeting took place at the Woman's Club, October 23, 10:00 A. M., and was called to order by Mrs. F. W. Upshur, Richmond, retiring President of the State Auxiliary. The invocation was offered by Mrs. Burnley Lankford, Norfolk, and the address of welcome was delivered by Mrs. R. L. Payne, Sr., Norfolk. She greeted the visitors very warmly and, on behalf of the Auxiliary to the Norfolk County Medical Society, a hearty welcome was extended. Mrs. Stuart Michaux, Richmond, very able responded to the address of welcome.

Dr. J. Allison Hodges, Richmond, President of the Medical Society of Virginia, brought an inspiring message to the Auxiliary. He outlined the growth of the Auxiliary and its potentialities for the future. He announced that an Advisory Board had been appointed and that the Medical Society had summoned to its assistance the two Medical Colleges of the State to work on one principle, that of encouraging all physicians to keep up with the advances in medicine through the post-graduate extension courses. That Dr. Alderman, President of the University of Virginia, and Dr. Sanger, President of the Medical College of Virginia, commended this movement and promised their cooperation.

The next speaker was Dr. Southgate Leigh, Norfolk, who elaborated on the needs of the Medical Society and its Auxiliary. He brought greetings as a member of the House of Delegates of the American Medical Association and read an extract from the report of our delegates to the American Medical Association. He dwelled upon several important measures for the welfare of the Auxiliary and the profession at large. He announced that the Medical Society of Virginia had appointed a committee on Public Relations with Dr. G. F. Simpson, Purcellville, as chairman. He urged that the Auxiliary appoint a similar committee to work with the State Society. He reported that the Sheppard-Towner Bill was defeated and stated that the House of Delegates of the American Medical Association was almost unanimous in defeating this bill. He referred to the splendid address of Mrs. Walter J. Freeman, at the meeting in Charlottesville last year. He further

expressed great faith in the Auxiliary and urged us to carry the work of the organization throughout the State.

Mrs. Upshur advised new organizations not to take up any new work unless approved by the Advisory Board. In her splendid and comprehensive report, she deplored the fact that Virginia was so poorly organized and urged the women to feel interested and return home and organize. Those who have no county organization can become members at large. She asked women to urge men to centralize their efforts. She noted the rapid strides that *Hygeia* had made; that heretofore it had operated at a great loss to the American Medical Association, but now a profit was being realized therefrom. She said that in Richmond, in eighteen months, the Auxiliary had been called upon for assistance three times. We must influence women to realize the necessity and importance of organization.

The Treasurer's report was given, showing a balance of \$97.83. The Secretary's report was read and accepted.

Mrs. Upshur read resolutions adopted by the Woman's Auxiliary to the Medical Society of Virginia on the death of Mrs. E. J. Nixon, Petersburg, our President-elect of last year. Copy of these resolutions was printed in March, 1930, issue of the VIRGINIA MEDICAL MONTHLY.

Mrs. R. U. Burges, Norfolk, delegate to the Woman's Auxiliary to the American Medical Association which met in Detroit June 23-26, 1930, gave a splendid report. It was most instructive. She spoke of the various accomplishments of many auxiliaries and urged that we profit thereby. Many innovations were introduced that will prove of great service to the Auxiliary. She stated that the American Medical Association would meet in Philadelphia next year and hoped that many ladies would attend.

Mrs. Southgate Leigh, Norfolk, State Chairman of Program of Health Education, reported that two very good "Health Study Envelopes" were sent out last year. That many county auxiliaries had done excellent work in preventive medicine, child welfare, cancer control, tuberculosis and tubercular hospitals. Close cooperation existed between County, City and State Health Officers. She stated the Auxiliary had rendered a great service to humanity and the medical profession by carrying the true story of medicine to the public.

Reports of the County Chairmen were given.

Mrs. W. P. McDowell, President, Auxiliary to Norfolk County Medical Society, presented a splendid report. Her Auxiliary, which has an enrollment of 141 members, is divided into three groups, with general and associate chairmen, namely: Philanthropic, Health Education, and Social Groups. This is the most active Auxiliary in the State.

Report was read from the Auxiliary to the Post-Graduate Medical Society of Southern Virginia, whose President is Mrs. Meade Edmunds, of Petersburg. It showed an interested and progressive group. Assistance was given to the local hospital and Nurses' Home and nine subscriptions to *Hygeia* were obtained.

The Auxiliary to the Richmond Academy of Medicine, of which Mrs. N. T. Ennett is President, showed much progress. Clothing and supplies were given to the Dooley and St. Philip Hospitals. Several social affairs were given, which proved successful. The Auxiliary assisted the Academy of Medicine in preparing a float, portraying the work of Dr. Walter Reed in discovering the cause of yellow fever. This float was entered in the parade of Adventure Day Program, held in Richmond, and was awarded first

prize, a lovely silver cup. They also assisted the Richmond Tuberculosis Association in their Early Diagnosis Campaign for children. The Committee on *Hygeia* reported 135 subscriptions.

Mrs. J. Newton Hunsberger, Norristown, Pa., President of the National Auxiliary, was the invited guest speaker. She spoke of our duties and responsibilities and asked us to maintain the high standards of our pioneers. She insisted that we must have a strong chain with no weak links and that we try to perfect our organization. She mentioned the benefit derived from the Medical Benevolent Fund to physicians and their families. She urged the cooperation of the counties with the State and National Auxiliaries. She emphasized the necessity of counties being given space in Journals, the use of treasurer's receipt blank books, and periodic health examination blank forms, to remind members of their annual medical examinations. Doctors and their families should be examined and teach others, by example.

The officers elected for the next two years are as follows:

President—Mrs. J. Allison Hodges, Richmond.

President-elect—Mrs. M. N. King, Norfolk.

Vice-Presidents—Mrs. N. T. Ennett, Richmond; Mrs. Meade Edmunds, Petersburg; Mrs. R. U. Burges, Norfolk; Mrs. Herbert C. Jones, Petersburg.

Treasurer—Mrs. Wm. B. Porter, Richmond.

Directors—Mrs. Southgate Leigh, Norfolk; Mrs. F. W. Upshur, Richmond; Mrs. Stuart Michaux, Richmond.

STANDING COMMITTEES:

Organization—Mrs. M. N. King, Norfolk.

Health Education—Mrs. Southgate Leigh, Norfolk.

Hygeia—Mrs. Charles Phillips, Richmond.

State Editor—Miss Agnes Edwards, Richmond.

Other chairmen and secretary to be announced later.

The Advisory Board appointed by the Medical Society of Virginia is composed of Dr. Southgate Leigh, Norfolk; Dr. J. W. Preston, Roanoke; Dr. Lawrence T. Price, Richmond.

Mrs. Upshur introduced Mrs. J. Allison Hodges, the new President, who took the chair. She made a plea for cooperation and stressed the individual responsibility of each member. She announced that next year at the meeting in Roanoke, the Auxiliary would have two days for meetings. On the second day, Round Table Discussions would be given in groups with leaders who will be appointed. She emphasized that we look into the future and not about the past.

Report of the Committee on Resolutions was given by Mrs. Geo. J. Tompkins, Lynchburg, chairman.

The meeting adjourned to attend a luncheon at the Woman's Club and the festivities closed with a boat ride around Norfolk Harbor, which proved most enjoyable.

MRS. JOSEPH BEAR,
Retiring Secretary.

When things go wrong, as they sometimes will,
When the road you're trudging seems all up hill,
When the funds are low and the debts are high
And you want to smile, but you have to sigh,
When care is pressing you down a bit,
Rest, if you must, but don't you quit.

—Selected.

President's Message

The Society's most constructive and continuing work between annual sessions is that of the Department of Clinical Education.

At the last annual meeting in Norfolk, the principle of adult education as related to the profession of Medicine was definitely established, and also, the necessity, eventually, of State aid to continue the education of practitioners after graduation was strongly emphasized.

Contributing very greatly to the complete success of this plan in the future was the announced hearty cooperation of the Medical Department of the University of Virginia and the Medical College of Virginia through their representatives, together with the Extension Department of the University. The assistance and guidance of these powerful agencies, already in the field of medical education, will mean much to this educational program, and is fully appreciated by the membership of the Society.

Now that the necessity for Continuation Education for Practitioners is officially recognized and endorsed again after a year's experience, it is all the more necessary that the individual members throughout the State should give even more fully of their time and interest to its furtherance in their own communities. It is something that we all need, if we are to keep in touch with the trend of modern medicine; it is something we must all do, if our vital statistics are to be improved.

"Rest prolonged, is rust inevitable."

The next meeting of the Department of Clinical Education in early December is awaited with interest, after which the newly designated President-elect, as Chairman, will undertake to carry out the program outlined for the year.

The Medical Colleges generally have not been in a financial condition in the past to aid their graduates in this respect, although at least two or three are now planning to institute certain helpful measures looking to this end for their future graduates.

All graduates, specialists included, need this "reconditioning process," but especially those who, by reason of their locations, are neces-

sarily deprived of local contacts with members of their profession.

As an index of some of the methods now being employed in this work, the following extracts from a letter which is self-explanatory, is just now being mailed to each Councilor:

"In a short time now, we will have the Winter meeting of the Councilors, and in the meantime, I am writing to ask a favor of you, and it is in the line of helping the President-elect with his educational campaign for the year—this letter, then, is as much personal as professional.

. . . "At two of our past meetings held in country districts where there were no hospitals, we were successful in getting several local physicians to bring some of their interesting non-surgical cases, and exhibit them, one physician showing three cases of pellagra, and these exhibits, together with demonstrations by two college teachers upon patients furnished locally, made one of the most instructive evenings at one of these places that we have had anywhere in the State. . . .

"If you can work up some such meeting in your district, it will certainly be appreciated. The important point is that we want to hold a meeting this year in every single district in the State which will be known as a Councilor Clinical meeting.

"The exact date is immaterial, and should suit your convenience, but should be scheduled for a date later than the fifth of any month, so that all the publicity possible through our JOURNAL can be employed, the monthly issues generally appearing from the first to the fifth of current months."

Members, both as individuals and in Society groups, are most urgently requested to aid the Councilors in this as in all their work, for only by such united effort can our Society fully serve its membership, and grow in numbers and greater usefulness.

We have written much about this subject in recent issues of this JOURNAL under the Department of Clinical Education, and for the present, we will now drop it with a prayer.

J. ALLISON HODGES, M. D.

President, Medical Society of Virginia.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Foreword.

It is with considerable trepidation that the President-elect assumes the duties of the Chairmanship of this Department. He feels in a very acute sense his inability to measure up to the standard set by his predecessor. The honor of having been selected by the Medical Society of Virginia to this position of trust and responsibility is appreciated more than can be expressed by any words of the writer.

At the annual meeting of the House of Delegates in Norfolk some were of the very decided opinion that the work of this Department should continue through this year under the direction of Dr. Hodges, who is really the father of this Department; however, the burdens of the Presidency seemed as much as he could carry, and the President-elect was made Chairman of the Department of Clinical Education. We feel sure, however, that Dr. Hodges will not be unmindful of his child and will be ready to advise and assist us at all times.

The Medical Society of Virginia owes a debt of gratitude to Dr. J. W. Preston and Dr. J. Allison Hodges, by whose patient and persistent efforts this Department has been brought to its present state of excellence in so short a time. I would also call attention to the splendid cooperation of our two State Medical Schools and the assistance rendered by our efficient State Health Department, as well as the excellent work of our Executive Secretary, Mr. Eutsler. There has been a gratifying response on the part of the medical profession of the State, and we have reason to hope that the work of the Department will show healthy growth during the coming year.

We are determined to carry on the work systematically and cheerfully, going if possible into each of our Councilor Districts. The State Society is well organized and more of a unit in purpose than ever before. There are also a number of vigorous county societies in which the members are waking up to the importance of holding clinical meetings, exhibiting and discussing concrete cases. Such facilities as are available with our numerous well equipped hospitals, two strong up-to-date Medical Schools, numbers of well educated and trained

young physicians challenge us to carry forward this campaign with confidence and assurance of success.

It is encouraging to know that we have already received requests for Clinical Meetings in several sections where they have not been held before, and voluntary offers from outstanding physicians to take part in these meetings. We hope to have more requests of this kind.

It will aid us very much if each Councilor will confer with the officers in all of the County Societies in his District and select the most convenient time and place for a Clinical Meeting, and notify the Chairman and Executive Secretary of this Department. The meetings will be educative and stimulating, and the personal touch and cooperation between men living in different section of the State will broaden our viewpoints and serve to strengthen our interest in the problems common to all of us.

Recent Meeting

The Post-Graduate Medical Society of Southern Virginia held one of its best meetings of the year at the Piedmont Tubercular Sanatorium in Burkeville on the afternoon of November 18th.

The entire meeting was devoted to the discussion of various phases of tuberculosis. Papers were presented by Doctors F. J. Wright and W. B. McIlwaine, of Petersburg; J. A. Proffitt, of Piedmont Sanatorium, and Dean B. Cole and Thomas Wheeldon, of Richmond.

Thirty-seven physicians attended the meeting, including the President-elect of the Medical Society of Virginia; Doctor I. C. Harrison, of Danville, and Ex-president, Doctor Charles R. Grandy, of Norfolk.

The local committee wishes to express its gratitude to the Department of Clinical Education of the Medical Society of Virginia for its valuable aid in perfecting this meeting.

Scheduled Meetings

The NORFOLK COUNTY MEDICAL SOCIETY offers the following programs for dates as indicated. A cordial invitation is extended to visiting physicians:

Monday, December 8th: SECTION ON SURGERY.

Surgical Management of Carcinoma of the Breast—Dr. Benj. A. Doggett.

Treatment of Carcinoma of the Breast by Radium—Dr. E. C. S. Taliaferro.

Monday, December 16th: SECTION ON PUBLIC HEALTH.

Public Health Problems—Dr. Ennion G. Williams, State Health Commissioner, Richmond.

On account of proximity to Christmas no meeting will be held on *December 22nd*.

Monday, December 31st: SECTION ON EYE, EAR, NOSE AND THROAT.

The Value of Roentgen Rays in the Study of Mastoids—Dr. Clayton W. Eley.

Monday, January 12th, 1931: SECTION ON SURGERY.

Symposium on Pathological Conditions of the Upper Abdomen:

Diagnosis and Medical Treatment—Dr. M. S. Fitchett.

X-ray Diagnosis—Dr. L. F. Magruder.

Pathological Diagnosis—Dr. L. J. Motyca.

Operative Procedures—Dr. C. C. Smith.

December 9, 1930. The SOUTHSIDE VIRGINIA MEDICAL ASSOCIATION will hold its regular quarterly meeting in Petersburg, on this date, and all interested doctors are invited to attend. Dr. J. A. Grizzard, Drewryville, is president, and Dr. R. L. Raiford, Franklin, secretary.

January 13, 1931. The POST-GRADUATE MEDICAL SOCIETY OF SOUTHERN VIRGINIA, composed of the counties of Nottoway, Dinwiddie, Prince George, Greensville, Brunswick, Surry, and Sussex, will hold a meeting at Hopewell, Va., at 6 P. M., in conjunction with the Department of Clinical Education. There will be a symposium on "Allergy."

Dr. Joel Crawford, Yale, is president of this society, and Dr. Philip Jacobson, Petersburg, is secretary.

The Department of Clinical Education hopes that other societies throughout the State will fall in line and furnish programs as does the Norfolk County Medical Society. These may be sent direct to the VIRGINIA MEDICAL MONTHLY, 104½ West Grace Street, Richmond, Va.

Information

All members of the State Society are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Acting Executive Secretary, Mr. George W. Eutsler, P. O. Box 707, University, Va., or to the Chairman of the Department, Dr. I. C. Harrison, Danville, Va. We shall welcome suggestions and criticisms at all times.

Analyses, Selections Etc.

First Aid for the Mentally Sick.

Mental hygiene is fast winning recognition as a public health problem of major importance. Pronouncements by eminent public health authorities on the rising tide of mental disease, the incorporation of mental health topics in programs of medical meetings, the addition of chapters on psychopathology to textbooks of medicine and hygiene, and many other developments bear witness to the increasing attention the subject is receiving at the hands of the medical profession. Interesting analogies have been drawn between physical and mental medicine to show why this attention is deserved, why the study of mental sickness can no longer be ignored in the training of medical students, and why even physical disorders cannot be adequately treated without reference to the patient's mental reactions.

A practical aspect of this awareness of mental disease as a serious health problem is its effect upon the public health officer. He has for years, directly or indirectly through his epidemiological work, contributed to the advancement of mental hygiene: for example, by his attack on syphilis and other infectious diseases, and by his campaign of education for better physical health. More recently he has gone in for the suppression of noise as a menace to mental health. He now realizes, as Dr. Samuel W. Hamilton points out in a recent issue of *Occupational Therapy and Rehabilitation*, that mental illness may be more dangerous to a neighborhood than smallpox, for an insane person may by his erratic violence cause the death of others; that the feeble-minded are the worst spreaders of venereal disease; and that the wage earner can be just as badly incapacitated through the demands made upon him and his family by an imbecile child as through industrial diseases or injuries.

One of the most useful services the health officer can perform is in connection with the temporary care of the mentally sick, pending their admission to state hospitals. First aid provisions for those whose minds break down are far from satisfactory. Institutional conditions among the insane are vastly better than they were years ago, and more mental cases are securing treatment than ever before, but there is still neglect in many communities for periods ranging from a day or two to ten days or more during which these cases undergo observation or await the completion of commitment proceedings. Too commonly local care of the mentally sick consists of confinement in a jail, as if they were a police instead of a medical problem, or in a cell in a municipal or county building, or in other unsuitable quarters, thus causing unnecessary suffering and frequently aggravating the patient's condition. —*Mental Hygiene Bulletin*, November, 1930.

Proceedings of Societies

The Fauquier County Medical Society

Was entertained, on October 31st, by Mrs. Katherine F. Bowman, Chairman of the Fauquier County Chapter of the American Red Cross, at her home in Warrenton, Va. There were thirty-five guests present, including many Red Cross workers and doctors. After a most enjoyable dinner, Mrs. Bowman gave an instructive talk, outlining the work of the Red Cross. Miss M. I. Havey, from the Headquarters of the Red Cross, Washington, D. C., gave a most interesting and humorous talk on the work of the Red Cross. She especially emphasized their work in the prevention of typhoid fever and diphtheria. Mr. Robert C. Bondy, Manager of the Eastern Area of the American Red Cross, emphasized the responsibilities of the Red Cross and told of some of their work. Interesting talks were made by Dr. John A. Gibson, Dr. M. B. Hiden, Dr. W. O. Bailey, and Dr. G. Frank Simpson, president of the Loudoun County Medical Society.

Dr. Wade C. Payne, of Haymarket, is president of this Society, and Dr. J. R. Allen, of Marshall, is secretary.

The Pittsylvania County-Danville Medical Society,

At its annual meeting held on November 10th, elected the following officers for the en-

suing year: Dr. J. T. Daves, president; Dr. Samuel Newman, vice-president; and Dr. P. W. Miles, secretary-treasurer. All of these officers are of Danville, Va.

The Loudoun County Medical Society

Held its regular monthly meeting at the home of Dr. J. A. Gibson, November 4, 1930, with Dr. G. Frank Simpson in the chair. Dr. Simpson gave a clear and concise report of the proceedings of the recent convocation at Norfolk, Va., October 21st-23rd. He made twenty recommendations to the society, all of which were accepted. Representative Wilbur C. Hall and Senator Cecil Connor were the honor guests at this meeting. The society was much impressed and greatly appreciated their expressions of friendship for physicians in private practice.

The secretary of this society is Dr. Wm. O. Bailey, Leesburg.

The Physicians' Journal Club of the Eastern Shore of Virginia

Held its regular monthly meeting on November 11th, at 8 P. M., at the Northampton-Accomac Memorial Hospital, with a fair attendance. The subject for discussion was cancer. Several interesting case reports were presented by the hospital staff and were freely discussed by the members.

The annual election of officers for the ensuing year was as follows: President, Dr. John W. Robertson, Onancock; vice-president, Dr. Shepard K. Ames, Cape Charles; and secretary, Dr. Rooker White, Keller.

J. M. LYNCH, *Secretary*.

The South Piedmont Medical Society

Held its regular semi-annual meeting in Danville, Va., November 25, in afternoon and evening sessions. Supper was served between the two. Dr. Don Preston Peters, Lynchburg, president, was in the chair, and a number of interesting papers were presented, including a symposium on the "Ductless Glands." A "Prenatal Clinic" was conducted at 2:00 P. M. in the clinic rooms of the Danville Health Department, by Dr. Bayard Carter, professor of Obstetrics at the University of Virginia. This subject was selected as it is thought that prenatal care of expectant mothers is a matter of increasing importance to both the medical profession and the general public. Dr. George A. Stover, South Boston, is secretary of this Society.

PROCEEDINGS

Medical Society of Virginia

MINUTES OF THE SIXTY-FIRST ANNUAL MEETING OF THE MEDICAL SOCIETY OF VIRGINIA

Norfolk, Virginia, October 21, 22, 23, 1930

GENERAL SESSIONS

Tuesday, October 21

8:00 P. M.

The Medical Society of Virginia convened in the ballroom of the Monticello Hotel, Norfolk, on Tuesday evening, October 21, 1930, and was called to order at eight o'clock by Dr. W. L. Harris, Norfolk, Chairman of the Committee on Arrangements.

The invocation was said by Dean H. Dobson Peacock, Rector of Christ Church, Norfolk.

Dr. F. D. Wilson, President of the Norfolk County Medical Society, Norfolk, delivered an address of welcome, which was responded to by Dr. J. W. Preston, of Roanoke.

While the audience stood, Dr. Joseph A. White, Richmond, Chairman of the Membership Committee, read the names of those members of the Society who had died since the last meeting, following which the audience stood for a minute in silent tribute to those who had departed.

List of Thirty-three Members of the Society Whose Deaths Have Been Reported Since the 1929 Meeting

Dr. Harry Taylor Marshall, University, Va., November 8, 1929.

Dr. Simon P. Conduff, Draper, Va., November 24, 1929.

Dr. George Price McCoy, Hopewell, Va., November 5, 1929.

Dr. John Thompson Graham, Wytheville, Va., December 16, 1929.

Dr. Philip David Pence, St. Charles, Va., January 2, 1930.

Dr. Mathew W. Jewett, Ivanhoe, Va., November 12, 1929.

Dr. Edward Hobday Claud, Portsmouth, Va., January 12, 1930.

Dr. Henry L. Burwell, Roanoke, Va., January 29, 1930.

Dr. Richard Randolph Nevitte, Temperanceville, Va., January 17, 1930.

Dr. Alpheus Fields, Norfolk, Va., February 4, 1930.

Dr. John M. Harwood, Petersburg, Va., February 12, 1930.

Dr. Charles William Greever, Tazewell, Va., February 14, 1930.

Dr. Louis Eldridge Foulks, New Egypt, N. J., December 11, 1929.

Dr. John Garnett Nelson, Richmond, Va., March 30, 1930.

Dr. Robert Bruce James, Lexington, Va., March 3, 1930.

Dr. John A. Tyree, Danville, Va., March 20, 1930.

Dr. James Thornton Neel, Gratton, Va., January 28, 1930.

Dr. Spurgeon John Railey, Handsom, Va., March 26, 1930.

Dr. John Rice Anderson, Martinsville, Va., March 11, 1930.

Dr. Edward L. Boone, Seaboard, N. C., August, 1928.

Dr. Mary Evelyn Brydon, Richmond, Va., April 13, 1930.

Dr. Rawley Martin Witten, Bluefield, Va., February 26, 1930.

Dr. W. E. Oliver, Elliston, Va., April 24, 1930.

Dr. John William Dillard, Lynchburg, Va., May 17, 1930.

Dr. Robert Patton Kelly, Lynchburg, Va., June 10, 1930.

Dr. James Richard Shacklette, Harrisonburg, Va., June 6, 1930.

Dr. David Thomas Gochenour, Stuarts Draft, Va., June 4, 1930.

Dr. John Herndon French, New York, N. Y., February 13, 1930.

Dr. Schuyler Barclay Moon, Richmond, Va., July 12, 1930.

Dr. Jesse Garvin Carter, Richmond, Va., June 27, 1930.

Dr. Charles P. Rexrode, Mt. Solon, Va., July 2, 1930.

Dr. Louis Mackall, Washington, D. C., July 27, 1930.

Dr. Charles B. Crute, Farmville, Va., October 9, 1930.

After announcements in regard to the program of papers and entertainments, Chairman Harris presented the President, Dr. Charles R. Grandy, of Norfolk, who then read his address.

The next number on the program, an address on "Endocarditis," by Dr. William S. Thayer, of Baltimore, an *invited guest*, was omitted, Dr. Thayer being unavoidably absent.

Dr. David R. Lyman (*invited guest*), of New Haven, Connecticut, addressed the Society on the subject of "Factors in Tuberculosis Which Are Often Overlooked," the address being illustrated by X-ray pictures.

A moving picture of tuberculosis work in Virginia was then shown through the courtesy of the State Health Department.

The program having been completed, the Society adjourned.

Wednesday, October 22, 1930

The Society met in the ballroom of the Monticello Hotel at 9:30 A. M., and was called to order by Dr. Charles R. Grandy, President, who then asked Dr. F. H. Smith, Vice-President, of Abingdon, to preside.

The following papers, composing a Symposium on Syphilis, were read:

"Some Cutaneous Manifestations of Syphilis," by Dr. D. C. Smith, University.

"Syphilis in Relation to Internal Medicine," by Dr. William B. Newcomb, Norfolk.

"Syphilis in Its Relation to Surgical Neurology," by Dr. C. C. Coleman, Richmond.

"Prevention of Syphilis," by Dr. C. B. Ransone, Roanoke.

(Dr. Smith then showed slides illustrating his paper).

The papers in the Symposium on Syphilis were discussed by Dr. Carrington Williams, Richmond; Dr. C. E. Conrad, Harrisonburg; Dr. Roy K. Flannagan, State Board of Health, Richmond; Dr. T. V. Williamson, Norfolk, and by Dr. Smith, in closing.

Dr. J. Shelton Horsley, Richmond, read a paper entitled "Cancer of the Stomach, With Special Reference to Its Incidence, Diagnosis and Treatment." (Slides).

Dr. Grandy, President, announced the presence of several fraternal delegates from North Carolina and extended the privileges of the floor to them, inviting them also to the entertainments scheduled to follow the Wednesday evening meeting and the final adjournment. After announcements of several luncheons, Dr. Grandy asked Dr. Smith to resume the chair.

Dr. Smith, presiding, stated that, without objection, discussion of Dr. Horsley's paper would be deferred for the present, the other papers on cancer being presented at this time and all being discussed together.

The following papers were read:

"Primary Carcinoma of the Small Intestine," by Dr. William H. Goodwin, University. (Slides).

"The Value of the Roentgen Ray in the Diagnosis of Lesions of the Colon," by Dr. Claude Moore, Washington, D. C.

Dr. Smith, Vice-President, announced that a telegram had been received from Dr. J. K. Hall, Richmond, commending Dr. Wyndham B. Blanton's work on the early history of medicine in Virginia. Dr. Smith stated that there would be someone present in the hall outside at the close of this meeting to take orders for the book.

A paper entitled "An Ideal Appendectomy," was read by Dr. M. B. Hiden, Warrenton.

Dr. Stanley H. Graves, Norfolk, read a paper entitled "Carcinoma of Rectum and Sigmoid."

The morning session then adjourned.

Afternoon Session

The Society convened at 3:00 P. M. and was called to order by Dr. Grandy, President.

Dr. Blanton P. Seward, Roanoke, read a paper entitled "The Extract of Watermelon Seed in the Treatment of Hypertension."

At this time Dr. R. L. Raiford, of Franklin, Vice-President, was called to the chair.

A paper entitled "The Significance of Blood Pressure Changes in Hypertension" (illustrated by lantern slides), was read by Dr. J. Edwin Wood, Jr., University, and was discussed by Dr. F. C. Rinker, Norfolk, and by Dr. Wood in closing.

The paper of Drs. William B. Porter and Dudley C. Ashton, Richmond, on "Syphilitic Cardiovascular Disease," was read by Dr. Ashton and was discussed by Dr. Porter, Dr. T. W. Murrell, of Richmond, and Dr. F. C. Rinker, Norfolk.

Dr. D. G. Chapman, Richmond, read a paper entitled "Thyroid Extract in the Treatment of Certain Cardiac Disorders," which was discussed by Dr. W. H. Higgins, Richmond.

Dr. J. G. Lyerly, Richmond, read a paper (illustrated by lantern slides), entitled "Encephalography in the Diagnosis of Brain Lesions."

A paper entitled "The Use of the Roentgen-Ray in the Diagnosis of Brain Tumors" (illustrated by lantern slides), was read by Dr. J. L. Tabb, Richmond, and was discussed by Drs. C. C. Coleman, Richmond; J. G. Lyerly, Richmond, and by Dr. Tabb in closing.

Dr. William B. McIlwaine, Petersburg, read a paper on "Congenital Hypertrophic Stenosis of the Pylorus," which was discussed by Drs. J. Bolling

Jones, Petersburg; J. Shelton Horsley, Richmond; C. E. Conrad, Harrisonburg; J. B. Stone, Richmond, and in closing by Dr. McIlwaine.

A paper on "The Management of Safety Pins in the Air and Food Passages," with lantern-slide illustrations, was presented by Dr. E. G. Gill, Roanoke.

Dr. Edgar M. McPeak, Washington, D. C., read a paper entitled "The Treatment of Carcinoma of the Cervix by Radium and Roentgen Ray" (illustrated by lantern slides).

Dr. Eugene Lowenberg, Norfolk, read a paper entitled "Atypical Problems in the Injection Treatment of Varicose Veins," which was discussed by Dr. R. DuVal Jones, Norfolk, and Dr. H. C. Jones, Petersburg, and by Dr. Lowenberg in closing.

The afternoon session then adjourned at 6:40 P. M.

Evening Session

The Society convened at 8:15 P. M., with Dr. Grandy, President, presiding.

The paper of Drs. Dewey Davis and Edgar C. Harper, Richmond, entitled "Acute Pneumonitis Due to Infection by Vincent's Organisms—Report of Three Cases," was read by Dr. Davis and was discussed by Dr. C. L. Harrell and Dr. Harper.

President Grandy announced the receipt of a telegram from Dr. Frank S. Johns, Richmond, stating that he was unable to be present to read his paper because of illness in his family and said Dr. Emmett had asked to be permitted to read his paper at this time. There being no objection raised, this procedure was followed.

Dr. J. Morehead Emmett, Clifton Forge, read a paper entitled "An Analysis of 207 Consecutive Operations Upon Patients Suffering with Thyroid Disease," which was discussed by Dr. J. Allison Hodges, Richmond, and in closing by Dr. Emmett.

A paper entitled "Closed Internal Pneumolysis: an Aid in the Pneumothorax Treatment of Pulmonary Tuberculosis" (illustrated by lantern slides), was read by Dr. I. A. Bigger, Richmond, and was discussed by Dr. Dean Cole, Richmond.

Dr. David C. Wilson, University, read a paper (with lantern slide illustrations), on "The Care and Prognosis of the Extra-Mural Epileptic," which was discussed by Drs. J. H. Bell, Colony, and J. S. DeJarnette, Staunton.

The time for adjournment having arrived, the Society adjourned at 10:00 P. M. to attend a buffet supper and dance at the Norfolk Country Club.

Thursday, October 23, 1930

The Medical Society of Virginia met in the ballroom of the Monticello Hotel and was called to order by Dr. Grandy, the President, at 9:00 A. M.

Dr. I. H. Goldman, Richmond, read a paper on "Avertin in General Surgery."

The paper of Drs. W. K. Dix and John S. Horsley, Jr., Richmond, entitled "Avertin: A Rectal Method of General Anesthesia," was read by Dr. Dix.

The two above papers were discussed by Drs. J. Shelton Horsley, Sr., Richmond; Hugh H. Trout, Roanoke; Charles S. White, Washington, D. C.; Dean B. Cole, Richmond, and Jas. W. Reed, Norfolk.

Dr. Staige D. Blackford, University, read a paper entitled "Tularemia in Differential Diagnosis," which was discussed by Dr. H. G. Grant, State Epidemiologist, Richmond; A. L. Tynes, Staunton, and by Dr. Blackford in closing.

A paper entitled "Report of Four Cases of Tumor of the Kidney in Children Under Five Years of Age," was read by Dr. Julian L. Rawls, Norfolk.

A paper entitled "Neoplasms of the Urachus: Re-

port of Two Cases of Carcinoma" (illustrated by lantern slides), by Drs. R. L. Payne and R. DuVal Jones, Jr., Norfolk, was read by Dr. Payne and was discussed by Dr. Carrington Williams, Richmond.

The paper of Dr. G. F. McGinnes and Adah Corpening, State Health Department, Richmond, entitled "Laboratory Diagnosis of Syphilis," was read by the title.

Dr. Edward L. Alexander, Newport News, read his paper entitled "The Hypothyroid State," which was discussed by Dr. Joseph Bear, Richmond, and in closing by Dr. Alexander.

At this time President Grandy called for the two papers omitted at the Wednesday evening meeting for lack of time, those of Dr. Shield and Dr. Gayle. Dr. James Asa Shield, Richmond, read his paper entitled "Early Findings in Disseminated Sclerosis," which was discussed by Dr. B. R. Tucker, Richmond.

The paper of Dr. R. Finley Gayle, Jr., Richmond, on "The Management of the Psychoneuroses," was read by Dr. F. W. Upshur, and was discussed by Dr. James Asa Shield, Richmond.

Dr. W. Banks Huff, Roanoke, read his paper entitled "Torsion of the Omentum Presenting Symptoms and Signs of Acute Appendicitis."

The paper of Dr. Ernest G. Scott, Lynchburg, on "Zinc Stearate Insufflation, With Report of a Case," was read by title.

Dr. Kinloch Nelson, Richmond, presented a paper entitled "Familial Dystrophy of the Hair and Nails: Report of Three Cases."

Dr. William O. Bailey, Leesburg, read a paper entitled "Material Medicine (A Corollary of 'Medical Jazz,' by Dr. Roy K. Flannagan)," which was discussed by Dr. J. Allison Hodges, Richmond.

President Grandy presented Dr. Claiborne Willcox, of Norfolk, local chairman on automobiles, who announced the arrangements for transportation to the oyster roast which was to follow immediately after adjournment of this session.

The following papers were read by title:

"The Biological Relationship of Eugenics to the Development of the Human Race," by Dr. J. H. Bell, Superintendent, The State Colony for Epileptics and Feeble-Minded.

"Health Audits," by Dr. A. A. Houser, Richmond.

The Scientific Session adjourned at 12:21 P. M.

General Session

At 12:30 P. M., the general session of the Society was called to order by the President and the report of the House of Delegates was read by Miss Agnes V. Edwards, Executive Secretary-Treasurer. On motion, the report was adopted.

President Grandy announced that the newly-elected President-Elect, Dr. I. C. Harrison, Danville, had been obliged to leave.

No matters of business were brought up.

PRESIDENT GRANDY: Now, gentlemen I come to the end of my tether. I have tried to serve the Medical Society of Virginia and the medical profession of Virginia during the last year. I have tried to get certain things established which apparently do not appear on the surface. They are things which I hope will be of service later on. I have made some attempts, as well as I could, to get the business affairs of the Society lined up. We have gotten the Society's accounts in good shape. This year we have a balance out of our current expenses, for the first time in several years, for we had been drawing on a little surplus that we had. The accounts have been regularly audited by a certified public accountant, who has shown us how we

can save money. I did not do it all, I can assure you, as Miss Edwards is responsible for a great deal of it, and the chairmen of the committees are responsible for a great deal of it. Dr. A. L. Gray, chairman of the Committee on Legislation and Public Health, has spent just \$1.50 out of an appropriation of \$500.00, and he has done a great deal of work, I can tell you. The Legislature went through its session without passing anything inimical to us, and Dr. Gray is largely responsible for that.

We are trying to get the Medical Society of Virginia to keep in touch with the profession, not only at the annual meeting, but throughout the year. To do that we must build up local societies—county societies for economic and political purposes, group societies for scientific discussions. We have started—and only started; but I hope it will continue.

These matters will give our new president a chance to continue the splendid piece of work which he has been pushing in post-graduate education, the work to which he has absolutely given himself during this year, in which he has not spared his strength, his time, or his purse. I hope it can be carried on a little better because of the foundations which we have tried to leave behind, upon which he may be able to build a stronger, firmer edifice for Continued Education in the State of Virginia.

I now have a great deal of pleasure in turning over the gavel of the Society to Dr. J. Allison Hodges, with whom I have had the pleasantest possible association during the past year. Dr. Hodges.

DR. J. ALLISON HODGES: Mr. President and Gentlemen: Your summons to service is accepted in the mutual spirit, I believe, that exists between the officials and the members of this Society. I appreciate the high honor that you have given me to promote the interests of our society, and it shall be my pleasure, as it is my duty, to continue, as far as lies within my ability, the great work which Dr. Grandy has carried on during the past year. Without your confidence, your consideration, and your cooperation, however, this would be futile; it would be useless for me to promise that I would do it. Nevertheless, I believe, gentlemen, that I can count on you, because throughout our State there has been created during this administration, as in the former administration, a spirit of organized scientific medicine and its value to every member of this society is going on to higher and greater things.

Yesterday was an historical occasion, when your House of Delegates adopted a regime that they propose to follow and that will make the State of Virginia proud that it has been of service to its doctors—and not to them alone, but to the people of this whole Commonwealth. You endorsed and put into operation a movement which takes in every individual in the State and in addition—a thing unheard of and unknown before—the two medical colleges of the State combined absolutely, heart and soul, on the proposition of further education of the profession and the people, ultimately to be assisted by the State extension service, to aid them in this work.

This is not going to be done with any magic wand, but with your service and my service and the accumulated, unified service of us all it shall be and will be a great aid to the future of medicine in Virginia, and will be followed by other State societies, I am sure, in other States of this Union.

I, then, thank you again for this high privilege of being your servant, to do what I may in carrying forward what you have commanded, and if you will give me your cooperation, I say to you that the great

work initiated by Dr. Grandy in his administration, will be to the ultimate good of all the people of the State of which we are so proud and which we wish to make bigger and better and healthier.

Now, according to the By-Laws, it is my duty to announce the appointments to fill the vacancies on the Standing Committees of this Society. I will say here that, owing to the great increase in interest in professional matters during the past year, so many more new special committees have been named at this meeting, that I am going to take them, together with the old committees, and confer with different leaders throughout the State, and see if we can not disseminate the work of this Society throughout the borders of the State by getting the interest of the workers who will be appointed upon these various special committees. However, the By-Laws require that the members to fill vacancies on the Standing Committees be appointed now, and they are as follows:

Appointments on Standing Committees

Scientific Work and Clinics—Dr. C. Bruce Morton, University, Member and Chairman.

Legislation and Public Health—Dr. John W. Robertson, Onancock.

Publication and Program—Dr. R. L. Payne, Norfolk.

Medical Economics—Dr. Ernest G. Scott, Lynchburg.

Medical Education and Hospitals—Dr. W. O. Bailey, Leesburg.

Membership—Dr. Charles F. Rinker, Upperville.

Ethics and Judiciary—Dr. Joel Crawford, Yale (3 years), and Dr. J. C. Motley, Abingdon (2 years), to supply vacancy made by Dr. Harrison's election as President-elect.

All of above appointments are for a term of three years except the one noted.

A motion for adjournment is now in order.

A motion to adjourn was duly offered, seconded, and carried, and the Medical Society of Virginia adjourned *sine die*.

BUSINESS SESSIONS

The Council

The Council of the Medical Society of Virginia met at the Monticello Hotel, Norfolk, Virginia, October 21, 1930, at noon.

Present: Dr. Charles R. Grandy, President; Dr. J. Allison Hodges, President-elect; Drs. R. D. Bates, E. C. S. Taliaferro, Wright Clarkson, J. M. Shackelford, R. A. Bennett, J. E. Knight, C. B. Bowyer, J. M. Emmett, and Miss Agnes Edwards, Secretary.

The special purpose of this meeting was to consider the budget for the year ending September 30, 1931, that it might be presented the House of Delegates for approval.

Dr. Grandy stated that, in accordance with action at the winter meeting of the Council, he, Dr. Taliaferro and Miss Edwards had met the evening before and prepared a tentative budget, in order to save time at this meeting. The books had been audited in accordance with a previous action of the Council. Based on receipts and disbursements of the previous year, it was moved, seconded and carried that the budget for the Medical Society of Virginia be \$5,325.00 and that for the VIRGINIA MEDICAL MONTHLY \$11,065.00, to cover the work of committees and other specific features.

Miss Edwards stated that all of our bonds expired within a few months and she wished the Council to advise about their renewal. It was moved,

seconded and carried that Drs. Roshier W. Miller and Wright Clarkson be appointed a committee to confer with her in regard to the reinvestment of all securities.

Dr. Grandy said that he had made quite a study during the past year of the arrangement of group societies by Congressional Districts and that the Second District seemed the only one in which such a plan could well be worked out. He and Dr. Taliaferro, councilor, had called a meeting and had organized a Second District Medical Society for the purpose of having good scientific meetings. It seemed to Dr. Grandy that we have excellent material in existing group societies and he felt that some plan should be worked out for organizing the whole state into group societies for scientific purposes, these larger societies in no way to interfere with chartered county organizations. He presented two maps, which had been colored so as to show Congressional Districts in one and existing group societies on the other. It was suggested that it would be well to have maps colored in this way and sent all councilors prior to the winter meeting of the Council, so that they might make a study of the counties in their districts and be ready to offer suggestions at that time. Dr. Taliaferro moved that the Council recommend to the House of Delegates that a committee of three be appointed, with Dr. Grandy as chairman, to work out a plan for the grouping of county societies for scientific purposes. Seconded and carried.

Dr. Grandy said he felt that it would be of interest to members of the Medical Society of Virginia to know how their annual dues of \$5.00 were expended in the year ending September 30, 1930, and consequently he had prepared a scheme as follows:

APPROXIMATE ESTIMATE OF EXPENDITURES OF \$5.00 DUES OF MEMBERS OF THE MEDICAL SOCIETY OF VIRGINIA

Virginia Medical Monthly	\$ 2.00
Office salaries	1.44
Office expenses	.42
Last annual meeting	.27
Expenses (Councilors and Officers)	.09
Expenses (Standing Committees)	.06
Expenses (Committee History of Medicine)	.30
Expenses (Department Clinical Education)	.30
Retaining Fee—Attorney (discontinued)	.12
	\$ 5.00

There being no further business, the meeting adjourned.

House of Delegates

The House of Delegates of the Medical Society of Virginia held its first meeting at the Monticello Hotel, Norfolk, Virginia, October 21, 1930, at 2:30 P. M. The meeting was called to order by Dr. Charles R. Grandy, Norfolk, President. Roll call showed a quorum present.

The first business was to take action on the last printed minutes of the House of Delegates. It was moved, seconded and carried that these be adopted.

The report of the Executive Secretary was next presented by Miss Agnes Edwards.

Secretarial Report

TO THE PRESIDENT AND MEMBERS OF THE HOUSE OF DELEGATES:

At our 1928 meeting, we reported a membership of ----- 1,840

Since then we have enrolled			
New members -----	61		
Reinstated -----	6		
	—	67	
Lost by death -----	33		
Resigned -----	13		
Dropped -----	20		
	—	66	
		—	1,841
Making a net gain of one member.			

On the whole this has been a good year for the Society. Several of the committees have held meetings and the various reports will show that much good has been accomplished. The Council also held its usual mid-winter meeting, which was well attended. There has been no abatement in the amount of routine work at the executive offices.

As last year, we report 52 component societies, including 88 counties and the City of Alexandria. While some of these societies are not as active as might be desired, an apparently greater interest is manifested by the fact that a larger number than usual (44) have appointed delegates to represent them in our House of Delegates.

Our Society was represented at the Detroit meeting of the American Medical Association by Drs. Southgate Leigh, J. W. Preston and E. C. S. Taliaferro, the latter substituting for Dr. E. G. Williams, delegate.

Drs. Alexander G. Brown, Jr., P. W. Boyd, and J. C. Flippin were appointed by our President as delegates, and Drs. James H. Smith, Julian M. Robinson, and A. L. Tynes, alternate-delegates to the Eleventh Decennial Convention for the Revision of the U. S. Pharmacopoeia, in Washington, D. C., last May. Drs. Brown and Boyd were the only ones who were able to attend.

The President appointed Dr. J. Edwin Wood, Jr., as chairman of the Committee on Scientific Work and Clinics, owing to the inability of Dr. John S. Horsley, Jr., to serve in this capacity. He also appointed Dr. J. M. Emmett, of Clifton Forge, as councilor for the Tenth Congressional District to fill the vacancy caused by the resignation of Dr. J. F. Fulton. Dr. James K. Hall was appointed chairman of the Ethics and Judiciary Committee, *vice* Dr. Garnett Nelson, deceased, and Dr. James D. Clements was named a member of the Walter Reed Commission to fill the vacancy caused by the death of Dr. Nelson.

Dr. J. Shelton Horsley represented the Medical Society of Virginia at the centennial meeting of the Tennessee State Medical Association in Nashville, last April, upon appointment of our President, Dr. Grandy.

Acknowledgment is hereby made of 500 extra copies of the February and March issues of the VIRGINIA MEDICAL MONTHLY, a gift of Dr. Grandy, to be sent all Virginia doctors, white and colored, not members of the State Society, with a view of acquainting them with the work of the Department of Clinical Education and thus creating a greater interest in the work being done by the Society.

The Second District Medical Society was organized through the efforts of Dr. Grandy, President, and Dr. E. C. S. Taliaferro, Councilor of that District, as the first step toward organizing the State into group societies for the clinical advantages offered by larger meetings. This is intended in no way to interfere with county organization work, as the county is still to be considered the unit of our Society.

This year we welcome eight fraternal delegates

from our sister State, who come to us by appointment from the Medical Society of the State of North Carolina.

With a view to discussing organization problems, we have arranged for a luncheon meeting of secretaries from component and district societies of the State, this to be held on the second day of this meeting.

As a means of expediting the work of our House of Delegates, I wish to recommend that our By-Laws be amended so that Article V, Section 1, may provide for the appointment of the Nominating Committee at the meeting of the House of Delegates, on the first day, rather than at the first meeting on the second day. This should enable us to have our election of officers on the second day of our annual meetings and thus not have the business sessions so long drawn out.

In closing, I wish to express appreciation of the cooperation which has been given the executive offices by members generally. We confidently count on a continuation of your splendid help.

AGNES V. EDWARDS.

Secretary.

It was moved and seconded that this be accepted. Carried.

The report of the mid-winter meeting of the Council was then read.

Minutes of Council Meeting

February 1, 1930

The Council of the Medical Society of Virginia held its mid-winter meeting at the Society's offices, in Richmond, Va., February 1, 1930, the President, Dr. Charles R. Grandy, of Norfolk, presiding. Others in attendance were: Dr. J. Allison Hodges, President-elect; Miss Agnes Edwards, executive secretary of the Society, and Drs. R. D. Bates, E. C. S. Taliaferro, R. W. Miller, Wright Clarkson, J. M. Shackelford, councilors from the first to the fifth Congressional districts, respectively, and Drs. J. E. Knight and C. B. Bowyer, councilors from the eighth and ninth districts.

Dr. Grandy opened the meeting with the reading of Article VII of the By-Laws, which relates to the duties of the councilors, stating that he felt it was a good plan, now and then, "to refresh our memories with what is expected of us."

Miss Edwards presented the financial statement, showing estimated receipts according to the budget adopted at the Charlottesville meeting, and cash receipts to date, also appropriations included in the budget, cash disbursements and unexpended appropriations in the four month period since the beginning of our financial year.

In a discussion of the budget, it was moved by Dr. Miller, and seconded by Dr. Taliaferro, that the \$200.00 allowed for an attorney should not be used as a retainer fee, but only for emergencies and then only on the authority of the President. Carried.

It was further moved, seconded and adopted that the bill of the reporter of our scientific sessions, slightly in excess of budget, be paid.

The President stated that it was his understanding that all unused balances from appropriations revert to the general treasury at the end of the fiscal year. To avoid confusion about this matter at some later date, this was put in the form of a motion, seconded and carried.

Dr. Grandy said that it was his opinion that we had not hitherto given sufficient consideration to the preparation of a budget and, that we might get on a good financial working basis, he felt some ar-

rangement should be made whereby this subject might be gone into a little more thoroughly. Motion was then made that the President appoint two members of the Council who, with himself as chairman, shall act as a budget committee to prepare a budget after the annual audit is made, this budget to be presented to the Council for their guidance just before the next annual meeting. Seconded and carried.

Reports of committees were next called. Dr. Grandy stated that he had been in constant communication with Dr. A. L. Gray, chairman of the Committee on Legislation and Public Health, and, to this time, nothing had come up in our General Assembly to cause any concern to our Society. The other standing committees had nothing to report at this time.

In a call for reports from special committees, a letter was read from Dr. Wyndham Blanton, chairman of the Committee on the History of Medicine in Virginia, stating that his committee had collected and prepared material for the first volume of its work and would like to have permission of the Council to proceed at once with its publication. The committee had made a tentative contract which involved "no monetary outlay on the part of the Society, except for corrections which may have to be made in the proof which will be a small item, and provides for a royalty after the sale of 750 volumes." It was moved by Dr. Taliaferro, seconded by Dr. Hodges, and carried, that this committee be authorized to proceed at once with arrangements for the publication of this first volume and that the thanks of the Council be extended Dr. Blanton and his committee for the excellent work they have done and for their arrangements for its publication.

A letter was next read from Dr. W. P. Jackson, chairman of the Committee on Child Welfare, stating that it is hard to get a full attendance of their committee of five, which fact makes the work devolve on about three of their committee, and that they felt that the addition of several members from the various sections of the State would assist in creating public interest. Following the reading of this letter, it was moved, seconded, and carried, that Dr. Jackson and his committee be complimented on the work they are doing, but that it is the sense of the Council that a larger committee would rather handicap the work and it was felt best to hold to the committee of five.

The matter of setting the dates for our Norfolk meeting next came up for discussion and it was moved, seconded and carried, that the dates for this meeting be October 21, 22, and 23, 1930. It was decided that the Council should meet at lunch hour on October the 21st, to receive and discuss the report from the budget committee of that body, and that the House of Delegates should hold its first meeting at 3 P. M., on that same date.

After selection of the date of the meeting, the Council offered several suggestions to be presented to the Program Committee for consideration at such time as they may meet to arrange the program for our Norfolk meeting.

Dr. Grandy said that he had appointed Dr. Alexander G. Brown, chairman of the Publication and Program Committee, to represent our Society at a meeting of a joint committee from the State Medical, Dental and Pharmaceutical Associations, with regard to having a joint session of these three organizations in 1930, and that the following resolutions were adopted at this joint conference:

"Whereas, certain conditions have arisen which make it impracticable to attempt a joint meeting

of the Medical Society of Virginia, the Virginia State Dental Association, and the Virginia Pharmaceutical Association in Norfolk, in 1930, such as the admitted inability of Norfolk proper, by the Norfolk men present, to accommodate the three organizations, thus making it necessary for them to meet, one in Norfolk, and the others at Virginia Beach or Old Point, and whereas, the committee feels that such an arrangement would largely defeat the purpose of such a meeting;

"And, whereas, it was generally understood that the joint meeting would be held in Richmond in 1930;

"BE IT RESOLVED, *First*: That this committee respectfully requests the officers and Council of the Medical Society of Virginia to change the place of their 1930 meeting to Richmond, so that the joint meeting can be held in 1930, while enthusiasm for such a meeting would insure its success.

"*Second*: That, in the event the transfer of the meeting of the Medical Society of Virginia cannot be effected, then said joint meeting be deferred until 1931, when it can be held in Richmond.

"*Third*: That the exigencies are such that this matter should be decided not later than January 10, 1930."

Dr. Grandy said that, in view of the date set for answer, he sent the secretary of the joint conference, Dr. A. M. Wash, secretary of the Virginia State Dental Association, the following reply:

"I am indeed very much obliged to you for the minutes of the joint conference held last Saturday in Richmond.

"I note, however, that the resolutions are in three heads, which I believe I am in position to answer.

"*First*, the committee requests the officers and Council of the Medical Society of Virginia to change the place of meeting to Richmond. This is absolutely beyond the power of the officers and Council of the Medical Society. Our House of Delegates met, voted on it and decided to meet in Norfolk in October, 1930. This action is final as far as this is concerned.

"*Second*, the question of the joint meeting in 1931 will have to be discussed and decided on at the next meeting of our House of Delegates, in October, 1930. I trust such a meeting can then be arranged.

"*Third*, I feel that the action of the House of Delegates of the Medical Society of Virginia has already decided the matter in so far as we are concerned.

"I personally trust that the Medical and Dental Societies of Virginia may in the future be able to hold joint meetings. We are really members of the same profession, working in different specialties, and it will certainly be most advantageous to consult together."

The Council expressed approval of the letter written by Dr. Grandy.

A letter was read from Dr. H. H. Shoulders, secretary-editor of the Tennessee State Medical Association, saying that in April of this year they would celebrate in Nashville the one hundredth anniversary of their organization. In the name of his Association, he invited any of our members to attend and requested that our Society send representatives to the meeting. The Council moved that this invitation be accepted with thanks and voted that our President, Dr. Grandy, be appointed to represent our Society at this meeting. Seconded and carried.

Copies of reports from the secretary of the Loudoun County Medical Society were presented, telling of an investigation they are making to promote the efficiency of, and to prevent infringements against their members. It was moved, seconded and carried that these reports be received and

filed and that the Society be advised that the Council hopes that they will keep this office advised of further steps.

Dr. Grandy said he had heard from Dr. Southgate Leigh, that the Virginia State Chamber of Commerce had planned to survey the health and medical condition in the State, and that he had written Major Leroy Hodges, the secretary, stating that he felt that the Medical Society of Virginia should have representation on the committee in charge of the survey. As Major Hodges did not feel that such was necessary, the Council authorized Dr. Grandy to have a private conversation with Major Hodges on this subject and be influenced by his action in further pushing his request.

The President asked for reports from the Councilors as to the organization of counties in their districts and there was a discussion of the problems presented. In addition to reports from the Councilors present, written reports were presented from Drs. R. A. Bennett and Percy Harris, Councilors from the Sixth and Seventh Districts, both of whom were unable to attend this meeting.

This completing the business of the Council, the meeting adjourned, that the members might attend a supper meeting of the Department of Clinical Education of the Society.

AGNES V. EDWARDS,
Secretary.

Motion was made that this report be adopted and approved. Seconded and carried.

Miss Edwards was then asked to present the Treasurer's report. She stated that the report as prepared by the auditor would appear in the printed minutes but gave figures covering receipts and disbursements for the Society, the MONTHLY, and the Legal Defense Fund. Motion was made, seconded and carried that this be received and filed.

Financial Report from October 1, 1929, to September 30, 1930.

TO THE OFFICERS, MEDICAL SOCIETY OF VIRGINIA,
RICHMOND, VIRGINIA.

GENTLEMEN:

We have made an audit of the financial records of the MEDICAL SOCIETY OF VIRGINIA, Richmond, Virginia, for the fiscal year from October 1, 1929, to September 30, 1930. Our report on this work is herewith presented, embraced in the statements enumerated below, together with the related comments following:

EXHIBITS:

- "A" Balance Sheet.
- "B" Receipts and Disbursements—General Fund.
- "C" Receipts and Disbursements—Legal Defense Fund.

Comments

FINANCIAL CONDITION:

The financial condition of the Society at September 30, 1930, is set forth in Exhibit "A," a summary of which appears as follows:

GENERAL FUND:

Cash on Deposit	\$ 4,560.55
Accounts Receivable	2,707.13
	<hr/>
Less: Accounts Payable ----	583.68
	<hr/>
Net Worth—General Fund..	\$ 6,684.00

LEGAL DEFENSE FUND:

Cash on Deposit	\$ 2,284.06
Investments—Bonds	6,500.00
	<hr/>
Total Net Worth.....	\$15,468.06

Results of Operations

(Receipts and Disbursements Basis)

The Cash Receipts and Disbursements for the fiscal year from October 1, 1929, to September 30, 1930, are detailed in Exhibits "B" and "C" for the General Fund and Legal Defense Fund, respectively. A summary of these transactions appears as follows:

GENERAL FUND:

Receipts—Medical Monthly..	\$11,113.33
Receipts—Medical Society ---	5,355.04
	<hr/>
Total Cash Receipts.....	\$16,468.37
Disbursements—Medical Mo....	\$10,504.78
Disbursements—Medical So....	5,029.62
	<hr/>
Total Cash Disbursements.....	15,534.40
	<hr/>
Receipts in Excess of Disbursements..	\$ 933.97
Cash Balance—October 1, 1929.....	3,626.58
	<hr/>
Cash Balance—September 30, 1930..	\$ 4,560.55

LEGAL DEFENSE FUND:

Receipts for Year	\$ 499.22
Disbursements for Year	300.00
	<hr/>
Receipts in Excess of Disbursements..	\$ 199.22
Cash Balance—October 1, 1929.....	2,084.84
	<hr/>
Cash Balance—September 30, 1930....	\$ 2,284.06

Scope of Audit

CASH RECEIPTS, as recorded, were found to have been properly deposited in The First & Merchants National Bank. Disbursements were by checks, which were audited in detail as to signature, endorsements and purpose of expenditure. Balances on deposit at September 30, 1930, were confirmed by certificate from the depository bank.

ACCOUNTS RECEIVABLE, as stated on the Balance Sheet, are shown as per office records and without direct verification with debtors. Amounts due by members of the Society, for annual dues prior to 1930, have not been included in the Balance Sheet, it appearing that the amount which will be realized from this source is nominal.

INVESTMENTS of the Legal Defense Fund were verified by inspection, and are represented by the following:

Bonds—Southern Bond & Mortgage Co.—	
Payable 12-1-30	\$3,000.00
Bonds—Southern Bond & Mortgage Co.—	
Payable 9-1-31	2,000.00
Real Estate Note—H. L. & P. L. Hobson—	
Payable 4-12-31	1,500.00
	<hr/>
Total.....	\$6,500.00

The income on these securities for the current year was found properly recorded.

ACCOUNTS PAYABLE, \$583.68, represent September, 1930, expenses, which were paid prior to the completion of our audit. The Secretary-Treasurer advised us that these represented all known liabilities of the Society at September 30, 1930.

INSURANCE IN FORCE was found as follows: Fire Insurance—office furniture and fixtures, \$1,000.00; Surety Bond—Secretary-Treasurer, \$3,000.00. The

surety bond is held by Dr. Alexander G. Brown, Jr., Richmond, Va., as custodian.

The financial records are kept on a receipts and disbursements basis and consist of Cash Receipts and Disbursements Book; Membership Register; Non-Member Subscription Register, and Advertising Clientele Record. These records were examined in sufficient detail to enable us to rely on the accuracy of the results shown in this report. We have provided a ledger with proper classification of accounts to show when properly kept, budget appropriations and income and expenses thereunder for future years.

Respectfully submitted,

A. M. PULLEN & Co.,
Certified Public Accountants.

Balance Sheet—September 30, 1930

Exhibit "A"

ASSETS

GENERAL FUND:

Cash:

On Deposit—First & Merchants Nat'l Bank (Exhibit "B") ----- \$ 4,560.55

Due from Members—1930 annual dues (382 at \$5.00) --- 1,910.00

ACCOUNTS RECEIVABLE:

For advertising --\$ 698.13

For Medical Mo. 99 00

797.13

\$ 7,267.68

LEGAL DEFENSE FUND:

Cash:

On Deposit—First & Merchants Nat'l Bank (Exhibit "C") ----- \$ 2,284.06

First Mortgage Bonds (6%) --\$5,000.00

First Mortgage R. E. Note (6%) ----- 1,500.00

6,500.00

8,784.06

Total Assets----- \$16,051.74

LIABILITIES

ACCOUNTS PAYABLE (General Fund):

For preparation of Medical Journal, September, 1930, issue ----- \$ 569.99

For miscellaneous expenses ----- 13.69

\$ 583 68

NET WORTH:

General Fund ----\$6,684.00

Legal Defense Fund 8,784.06

15,468.06

Total Liabilities and Net Worth---- \$16,051.74

Receipts and Disbursements—General Fund

For Fiscal Year, October 1, 1929, to September 30, 1930

RECEIPTS

Virginia Medical Monthly:

Advertising ----- \$ 7,399.21

Subscriptions:

Members ----- \$ 3,294.66

Non-Members ----- 364.80

3,659.46

Interest on bank balance----- 54.66

Total Medical Monthly----- \$11,113.33

Medical Society of Virginia:

Dues—Members ----- \$ 8,236.66

Less: To Medical Monthly ----- 3,294.66

\$ 4,942.00

Interest on Bank Balance ----- 54.65

Magazine Subscriptions (net) ----- 48.55

Return of Fund and Earned Interest from Committee for Post-Graduate Work----- 309.84

Total Medical Society ----- 5,355.04

Total Receipts ----- \$16,468 37

Balance—October 1, 1929 ----- 3,626.58

Total Receipts and Balance----- \$20,094.95

DISBURSEMENTS

Virginia Medical Monthly:

Salaries:

Secretary-Treasurer ----- \$ 1,800 00

Clerical Assistance ----- 595.00

\$ 2,395.00

Preparation of Journal, including Envelopes, Postage and Hauling ----- 7,491.43

Office Postage ----- 122.00

Rent, Fuel, Janitor & Telephone-----	287.65
Repairs and Replacement—Equipment-----	42.88
Stationery and Office Supplies-----	41.27
Collection Fees-----	68.74
Audit Fee-----	40.00
Miscellaneous-----	15.81

Total Medical Monthly ----- \$10,504.78

Medical Society of Virginia:

Salaries:

Secretary-Treasurer-----	\$1,800.00
Clerical Assistance-----	595.00

\$ 2,395.00

Attorney's Fee—Retained for 1929-----	200 00
Rent, Fuel, Janitor & Telephone-----	291.41
Stationery and Office Supplies-----	94.17
Postage-----	237.00
Reporting Annual Meeting-----	204.97
Councilors and Officers' Expense-----	153.06
Badges (for 1929 and 1930)-----	151.51
Programs-----	100.50
Repairs and Replacements—Equipment-----	42.87
Audit Fee-----	40.00
Miscellaneous-----	13.81

Committees:

History of Medicine-----	\$ 500.00
Clinical Education-----	498.72
Scientific Work-----	100.00
Legislation and Public Health-----	1.50
Child Welfare-----	5.10

1,105.32

Total Medical Society ----- 5,029 62

Total Disbursements ----- \$15,534.40

Balance—September 30, 1930 (Exhibit "A")----- 4,560.55

Total Disbursements and Balance----- \$20,094 95

Receipts and Disbursements Legal Defense Fund

For Fiscal Year, October 1, 1929, to September 30, 1930

Exhibit "C"

RECEIPTS

From Dues of Members (1928)---\$	44.97
Interest on Bonds-----	300.00
Interest on Real Estate Note----	90.00
Interest on Bank Balance-----	64.25

Total Receipts ----- \$ 499 22
Balance—October 1, 1929 ----- 2,084.84

Total Receipts and Balance----- \$2,584.06

DISBURSEMENTS

Defense of two members-----	\$ 300.00
Balance—September 30, 1930 (Exhibit "A")-----	2,284.06

Total Disbursements and Balance-- \$2,584.06

Following this, the budget as approved by the Council was presented. It was moved that this be adopted as read. Seconded and carried.

Dr. Grandy announced that request had been made to present some amendments to the Constitution and By-Laws, and they would be taken up at this time that they might be laid on the table for one day,

in accordance with our By-Laws.

Dr. E. L. Kendig presented the following, which had been published in the September, 1930, issue of the VIRGINIA MEDICAL MONTHLY:

Proposed Amendment to the Constitution

(New portions indicated by italics)

Have new Article incorporated in the Constitution, on page 3, just after Article VIII, as follows:

ARTICLE IX. *Trust Fund for Post-Graduate Clinical Education*

The last five living ex-presidents shall constitute a special committee to collect and hold in trust the post-graduate fund of the Society.

Renumber following articles of Constitution, advancing numbers by one.

Proposed Amendments to the By-Laws

ARTICLE VIII. Near the end of page 23, add a new Section, to be known as Section 8, to read as follows:

Section 8. The special committee of ex-presidents shall each year elect one of their members as chairman. The executive secretary shall act as secretary. The committee shall be active in securing subscriptions to the trust fund of the Society for post-graduate clinical education. This committee shall receive all contributions to this fund, contract with a good trust company for the investment of same in good securities, and each year pay to the department or committee in charge of clinical education

the interest and other revenues accruing from the investment of this fund.

ARTICLE IX—DUES

Section 1. There shall be an annual assessment of \$5.00 upon each member. These dues for each calendar year shall be made in one payment and are payable before December 31st of each year. Members joining the Society after June 30th shall be assessed \$2.50 for the remainder of that fiscal year.

The principal of the trust fund for post-graduate clinical education shall remain in trust and the interest and other revenues accruing from the investment of this fund shall be used by the department or committee in charge to help defray expenses of post-graduate clinical education. Members who have subscribed as much as \$250.00 to the Trust Fund for post-graduate clinical education shall thereafter be exempt from payment of annual dues.

Miss Edwards offered an amendment to the By-Laws, which was presented by Dr. A. L. Gray, that in Article V, Section 1, with regard to "Election of Officers," the words "on the second day" be omitted from the second line, making this read "The House of Delegates, at its first meeting, shall elect," etc.

It was moved, seconded and carried that these be laid on the table for consideration at the next meeting of the House of Delegates.

The following report from our delegates to the American Medical Association was presented by Dr. Southgate Leigh:

Report of Delegates to American Medical Association

The outstanding feature of the Detroit meeting of the House of Delegates was the various reports regarding the growing menace of socialism in medicine, so-called State Medicine, that is, the taking over of the practice of medicine by the National Government.

It was brought out that while on the Continent the situation has always been most unsatisfactory, England, which has so far escaped Government medicine, is now, through the National Medical Insurance Act, furnishing free medical service to the people.

In this country bills are being constantly introduced in Congress which, under the guise of charity, would seriously interfere with the practice of medicine.

The most dangerous of these is the extension of medical service and hospitalization to all war veterans, including transportation charges, for all kinds of ailments, regardless of whether or not the patients are able to pay, or whether or not the sickness has come from service in the Army or Navy.

This is a most unreasonable burden to put on the people of this country and a serious and radical interference with the welfare of the profession.

Other strong organizations and various government employees are already urging Congress to supply their members with free medical service.

Secretary West's report urges:

"A more militant spirit in the county medical societies and in state medical associations, to the end that each of these units of medical organization, in its sphere, will become more efficient in advancing the science of medicine, in improving the means and methods of its application, in bettering the public health and in persistently opposing anything and everything that would reduce the medical profession

to the status of a trade or of a socialized group of hirelings."

If each State Society would act as a real component part of the American Medical Association, and each one of its counties could be thoroughly organized and work in close harmony with the State Society, through education of the public and by personally acquainting the various National Legislators with the unwisdom of State Medicine, its harmfulness, the great injury and injustice it will inflict on the profession, such acts as these on the part of our National Legislature would all of them die aborning.

Unless active organized effort is developed throughout this country, and developed promptly and thoroughly, socialism in medicine will be upon us before we know it.

Let us take lesson from the labor organizations and organize strongly and efficiently.

Your delegates feel that the profession is confronted by a deadly menace. It is our duty to warn the members of the State Society.

We would urge that active steps be taken at this meeting so that Virginia may do its part for the protection of the profession and the people.

President Harris, in his address, advised the adoption of a plan under which the county societies should organize to look after people in moderate circumstances. This was referred to a Bureau of Medical Economics, which is being formed by the trustees under a resolution adopted by the House.

In this same connection the following resolution was adopted:

"RESOLVED, That the Board of Trustees appoint annually a committee of five, representing various sections of the country, the personnel of said committee to be composed of men who have had experience on state legislative committees, that said committee is to study these problems and to cooperate with the Bureau of Legal Medicine and make such recommendations as they consider necessary to the House of Delegates, and in the interim to the Board of Trustees."

Another resolution adopted was as follows:

"We endorse the sentiment expressed in the report of our Secretary, in which he recommends a more active and aggressive program on the part of component medical societies, stressing the necessity for unified action on the part of the medical profession as being essential in maintaining leadership in all questions pertaining to health matters. Also, the importance of establishing and maintaining the hearty cooperation of both the state and the county organizations through the agency of their respective public relations committees.

"We recognize the changing method in medical practice; however, we earnestly urge a realization of the necessity of maintaining the personal relationship between physician and patient, and oppose any attempt on the part of any well meaning but misinformed and misguided individuals or organizations in their efforts to apply 'mass production' methods to the practice of medicine."

The following resolutions, protesting against the action of Congress regarding veterans, offered by the Board of Trustees, were adopted by the House of Delegates and a copy sent immediately to the President of the United States:

Resolved, That, in the opinion of the House of Delegates of the American Medical Association, legislation to extend in point of time the presumption of service origin of diseases and injuries from which veterans are suffering, to establish arbitrarily the

service origin of such diseases and injuries and to extend greatly the category of such diseases, is without sound basis in the science and act of medicine;

Resolved, That the provisions of such legislation to the effect that lay evidence as to the nature and extent of diseases and injuries is to be given added consideration will give to such evidence weight to which it is in no way entitled and cause pressure on the Veterans' Bureau to allow claims for compensation without adequate medical support;

Resolved, That legislation recently enacted providing for the enlargement of the hospital facilities at the command of the Veterans' Bureau for the care of veterans, rich and poor, who desire hospitalization and treatment for diseases and injuries that admittedly have no relation whatever to military service is unsound and communistic in character, and the pending proposal to allow such veterans as are of financial limited means bonuses and money to add to their own comforts while they are in the hospital and to help support their families during that period and for limited periods thereafter is calculated to induce patients to seek hospital care through the Veterans' Bureau when such patients should be better and more economically treated as ambulant patients or treated in their own homes;

Resolved, That the duty of providing medical and hospital care and financial relief for indigent citizens of any state, when disabled by diseases and injuries that did not originate in the line of military duty, is a function not of the Federal government, but of the governments of the several states and should be discharged through state agencies, including permanently established state, county, municipal and private hospitals; and

Resolved, Further, that a copy of these resolutions be sent to the President of the United States.

President-elect Morgan urged that the restrictions governing the prescribing of alcoholic liquors by the profession be abolished and referred to the strong sentiment prevailing all over the country for such a course.

It should be recalled that at the Washington meeting a resolution was unanimously adopted calling the attention of the prohibition department to the intolerable situation in which the doctors are placed, in that they are obliged in cases of serious illness to break the law in order to supply alcoholic liquors in medicinal doses sufficient to aid their patients, the pint in ten days being insufficient.

The American Medical Association, since the Washington meeting, has held to this position and has a special committee which has conferred from time to time with the Government to bring about the change, but so far without result.

The President-elect also gave his views regarding the relationship between the doctor and the public hospital, in which he showed that the doctor is being often imposed upon unreasonably.

The Trustees reported the income of the Association to have increased materially, but urgent demands have increased still more.

Plans for additional space at headquarters are being developed, the most difficult problem being financial.

The membership of the Association is now approximately 100,000, but members contribute nothing to the treasury. The Fellowship is over 65,000, with a Journal subscription of more than 96,000. It is from this that the income is largely derived.

Hygeia is being appreciated more by the laity

than by the profession. Its circulation now is over 75,000—30% only being from physicians

The magazine was established on the urgent request of the doctors of the country to furnish a mouthpiece through which the "true story of medicine" could be told to the public.

It is serving its purpose splendidly and would do very much more good in educating the public if it could be found on the waiting room table of each of the 100,000 doctors of this country.

We must not forget that to the Woman's Auxiliary is due largely the rapidly increasing circulation of *Hygeia*. This organization, now 13,000 strong, is helping the American Medical Association in many useful ways, not the least being the proper education of the public regarding the profession and its work.

The Council on Physical Therapy is still working with manufacturers and doctors to eliminate useless apparatus and unethical practices.

Through radio and other addresses, the medical profession and the public are being informed of the possibilities and impossibilities of physical therapy as a curative or preventive agent.

In all of its educational activities this Council endeavors to point out the importance of physical therapy in medicine as an adjuvant rather than as a sole method of treatment. The Council expressed its opinion that too much emphasis has been placed on apparatus therapy and not enough on the possibilities of such measures as heat, massage, therapeutic exercise and occupational therapy.

The House approved the plan adopted by the Duke University and seven other medical schools for shortening the medical course to three calendar years, thus cutting down the average age for entering practice to 25½ years.

It should be noted that the original resolution for reducing the age was introduced by a delegate from this society and favorably acted upon.

It was urged that medical schools pay more attention to training students in obstetrics, the death rate in that department remaining unreasonably high.

The Council of the Medical Society of Virginia instructed your delegates to favor action on the part of the House, advocating the passage by Congress of a bill to revive the Sheppard-Towner Act. Your delegates appeared before the Reference Committee on Legislative and Public Relations and presented these instructions. The matter was gone into very thoroughly, both by the Reference Committee and by the Trustees, and the following resolution presented by them was adopted by the House:

WHEREAS, The American Medical Association is in entire sympathy with the cooperative efforts of Federal and state agencies to establish and develop official local health organizations for the conduct of those activities which are generally recognized as the proper functions of such health departments; and

WHEREAS, The usurpation of any public health function by any lay bureau of the Federal government, which, through allotments of Federal subsidies for special health service, seeks to duplicate and administer duties and functions already placed by law on the United States Public Health Service; and

WHEREAS, The United States Public Health Service has in the past efficiently discharged its duties with

respect to such matters and now, through recent reorganization, has been provided with enlarged facilities for carrying on such work; and

WHEREAS, An effort is now being made to revive and perpetuate the Federal subsidy system established under the defunct Sheppard-Towner Maternity and Infancy Act, which authorized the payment of state subsidies over a fixed period of years, on an arbitrary and irrational basis of population, without reference to the ascertained sanitary and health needs of the several states or to their ability to meet their own needs; and

WHEREAS, The payment of such subsidies was made dependent on the surrender by the legislatures of the several states, to the Federal government, of the right to supervise and control state activities in the selected field of public health; and

WHEREAS, This system after seven years' trial under the administration of a lay bureau, effected no improvement in the field of public health in which it was operative, notwithstanding the expenditure of more than eleven million dollars of Federal and state money; and

WHEREAS, In the judgment of the House of Delegates of the American Medical Association, any such system tends to destroy local initiative and sense of responsibility and to pay Federal funds for purposes named by the Federal government to states not in need of Federal aid; be it

Resolved, That the House of Delegates of the American Medical Association condemn as unsound in policy, wasteful and extravagant, unproductive of results and tending to promote communism, the Federal subsidy system established by the Sheppard-Towner Maternity and Infancy Act and protests against the revival of that system in any form;

Resolved, That it is the sense of the House of Delegates that each state should be left free to formulate its own health programs, with the cooperation of the United States Public Health Service if desired by the state, free from any inducement or compulsion in the way of Federal reward or coercion;

Resolved, That any legislation involving cooperation between the Federal government and the several states in the field of public health must, in the interest of efficiency and economy, in the judgment of the House of Delegates, be administered under the joint supervision and control of the United States Public Health Service and the state health authorities; and be it further

Resolved, That copies of these resolutions be sent immediately to the President of the United States and to every Senator and Representative in Congress.

Each State Society was requested to name a standing committee on Military Affairs and National Defense, to cooperate with a similar committee of the American Medical Association.

Many other matters of more or less importance were acted upon, among them being steps taken to advise as to the physical fitness of drivers of automobiles.

Steps were also taken to regulate the misuse of the radio in misleading and pernicious statements concerning matters of health, and also favoring the employment of mental experts by the courts.

It is proper to call the attention of the Society to the fact that for the first time in very many years, since the time when Dr. Hunter McGuire was President, this Society is honored in having one of its members as the President of the American Medical

Association, Dr. William Gerry Morgan, of Washington, D. C.

We cannot close this report without referring to the splendid service being rendered the doctors of the country and organized medicine by the present Secretary and General Manager of the American Medical Association, Dr. Olin West—an accomplished physician, a Southerner, a gentleman of the old school, a friend to all, a man full of the love of the profession and of humanity, and at the same time a wonderful organizer and manager. Would that every doctor of Virginia could know Olin West, as your delegates know and love him. He would be an inspiration for all that is highest and best!

SOUTHGATE LEIGH,
J. W. PRESTON,
E. C. S. TALIAFERRO,
Delegates.

It was moved and seconded that this report be received and filed. Carried.

Dr. Leigh called attention to the fact that his report asked for the appointment of two committees, one on Public Relations—State and County, and another on Military Affairs—National Defense. Dr. J. E. Knight expressed a desire that the Committee on Public Relations be appointed and asked that the privilege of the floor be extended Dr. J. A. Gibson, a vice-president of the Society. Dr. Grandy said he would be very glad to extend this privilege to Dr. Gibson but would first like some action with regard to the matter before the House. Dr. J. A. Hodges then moved that a committee of three be appointed as a Public Relations Committee. This motion was seconded, and Dr. Gibson was given the privilege of the floor to discuss this subject.

Dr. Gibson gave a most interesting talk, in which he stated that we are now facing a most serious problem in life; that the medical profession might be likened to a wheel—the scientific men representing the hub and the country men the spokes and rim. It is a wonderful advantage for the country doctor to have these scientific sessions, but they need the business part as well. Thirty-five to forty per cent of his work goes to charity. Better roads have put a large majority of his work in the hands of specialists. The country doctor sat quietly and let organized medicine come until it is now about to strangle him. You can produce a mid-wife in six months who then steps in and takes the doctor's place, he having studied for years. He said further that we have come to the parting of the ways and will be run over unless we fight; that we must have unity; and that the country doctors are going to fight organized medicine, as they do not believe in it.

Dr. G. F. Simpson then presented the following amendment to the motion, that it be the sense of the House of Delegates of the Medical Society of Virginia that every delegate go back to his county and present this subject and organize his society along the lines laid down by the delegates to the American Medical Association.

Dr. Leigh stated that he was very much alarmed about the situation. He said that in Washington there is a strong movement on foot for the government to look after every Federal employee in sickness. The members of Congress are themselves being cared for at the Walter Reed Hospital without any charge, at the expense of the government. Many bills are being brought in which will directly or indirectly care for the people of this country in sickness. It is too late when the bills are through. The American Medical Association has appointed a Pub-

The Relations Committee to handle this matter in connection with their present organization and they want a Public Relations Committee from each State Society to be a component part of their committee, and they also want a Public Relations Committee of each county in the State.

Motion was then made that Dr. Hodges' motion with Dr. Simpson's amendment, be adopted.

Dr. Hodges said that we want to do this thing right and it was not clear in his mind as to the exact way of doing it. He stated that we already have a standing committee on Legislation and Public Health and also a public relations committee in each county of the State, and asked if the new committee could be in collaboration with these committees.

Dr. Gray, chairman of the Committee on Legislation and Public Health, said he thought the duties would be practically the same for both committees. The county committees have been utilized in fighting some of the bills.

Dr. Grandy stated that Dr. Simpson's amendment that the delegates be instructed to bring this to the attention of their local societies and get the local societies to work was now before the House. This was put to vote and carried.

Dr. Hodges asked to withdraw his motion and have Dr. Gray's committee act as our Public Relations Committee. Motion lost.

Dr. D. C. Smith moved that a special committee on Public Relations—State and County, be appointed by the President. This was seconded and carried.

Dr. Smith also moved that a committee be appointed entitled National Defense and Military Affairs. Seconded and carried.

The next order of business was the reports of Standing Committees.

Report of Committee on Scientific Work and Clinics

Following the resignation of Dr. Horsley, of Richmond, as chairman, the committee was relatively inactive until September, 1930, except for occasional consultation with the Department of Clinical Education. Due to a rather heavy summer's work, the chairman was late in getting out the usual invitations for the scientific exhibit. However, there was an unusually gratifying response and the scientific exhibit program for the Norfolk meeting bids fair to be diversified and of general interest.

During the early part of September, consultation was held with the President of the Society, Dr. Grandy, and with his help and with the cooperation of Dr. R. L. Payne and Dr. A. B. Hodges, of Norfolk, an excellent program for the clinics was arranged. The chairman of the scientific committee takes this opportunity to express his gratitude for assistance given by Dr. C. R. Grandy, Dr. A. B. Hodges, and Dr. R. L. Payne, of Norfolk, and Dr. J. Shelton Horsley, Jr., of Richmond.

At the present writing no accurate financial statement can be made, as the work of this committee does not come to a close until the end of the meeting. It may be predicted, however, that the total allowance of \$100 (one hundred dollars), will be expended in full as in previous years. The committee wishes to raise the point as to whether this appropriation might be profitably increased, thereby paving the way for more elaborate exhibits and further lessening the burden on the community entertaining the Medical Society.

(Signed):

J. SHELTON HORSLEY, JR.,

JAMES BENTON NICHOLS,

J. EDWIN WOOD, JR., *Chairman*.

Motion was made, seconded and carried that this report be received and filed.

Report of Committee on Legislation and Public Health

TO THE HOUSE OF DELEGATES:

Your Committee on Legislation and Public Health has had comparatively little active campaigning during the past year. A number of bills were presented before our Legislature at its 1930 session, but few of them were of such a nature as to require vigorous support or opposition. The chiropractors did not offer bills. There were several bills affecting public health, some of which were in accord with the wishes of our State Board of Health and were passed; some were also defeated.

A widespread vigorous opposition was voiced by the American Medical Association to the passage of bills offered in the House of Representatives known as the Porter Narcotic Bills, and your committee brought pressure to bear upon our senators and certain of our representatives through the Councilors from several of the county medical societies and those in the district of Hon. R. Walton Moore, who was a member of the committee to which one of these bills was referred. As a result of the campaign of the medical profession against the passage of the bills as presented, a conference with representatives from the American Medical Association was held and satisfactory bills presented, which were passed.

There is in progress a protest by the Board of Trustees of the A. M. A. against a tentative draft of regulations relating to permits for the manufacture of and traffic in intoxicating liquors for non-beverage purposes. A copy of the brief presented to Dr. James M. Doran, Commissioner of Industrial Alcohol, calling attention to the objection found in the galley proof of the proposed changes has been forwarded by Dr. Olin West to your committee and is a masterly document, which should have tremendous weight in correcting many of the proposed changes and making the law more workable. Already some modification has been made. The Bureau of Legal Medicine and Legislation, through Dr. Woodward, does not think any action by us is necessary at the present time.

The A. M. A. also conducted a vigorous campaign against the passage of a bill known as the Jones-Cooper Maternity and Infancy Bill, which in effect would continue the provisions of the Sheppard-Towner Act. This bill was finally changed and another introduced by Representative Goodwin, of Minnesota, to continue the Sheppard-Towner Act for five years.

In view of the fact that our Council, February 26, 1929, adopted a resolution "that the Council approved the continuance of the Sheppard-Towner Act as it has been conducted in Virginia for the past seven years," your committee took no action against the impending bill, but the calendar of the Congress that adjourned July 3, 1930, shows no final action on this bill.

The A. M. A. Bureau of Legal Medicine and Legislation, cooperating with a Committee on Uniform State Narcotic Act, has drafted a bill with the idea of its adoption by the legislatures of the different states for the control of narcotic drugs.

The Virginia Pharmaceutical Association is opposing the passage of this bill by the states and your chairman is not convinced that the passage of such a law by the states separately is at all necessary or desirable, since the Harrison Narcotic Act seems

to be taking care of the subject without further padding of our state code with Federal laws.

Your committee would like advice in regard to this for its further guidance in advocating or opposing the passage of such a bill.

The following is a list of legislation proposed during the 1930 session of our General Assembly, with the fate of each:

BILLS PASSED

S. 70—Amending dental law—defining definition of practice of dentistry—adding various causes for revoking licenses.

H. 8—Abolishes registration of Assistant Pharmacists after March 1, 1931.

H. 259—Amending Section 690, Chapter 471, Acts of 1928, striking out the provisions that a school board may suspend the vaccination requirement.

S. 227—Amending Section 1638 of Code of Virginia regulating the practice of Optometry, by making it unlawful to retail spectacles, eyeglasses or lenses except by licensed physicians or optometrists.

H. 323—Provides that no person other than a licensed pharmacist, shall sell any hypnotic drug and then only on a written prescription of a licensed doctor of medicine, dentist, or veterinary.

S. 221—Requiring physicians to report infections, contagious and communicable diseases to the state health officer.

S. 266—Providing for fees for sheriffs, sergeants, criers, coroners and constables; but coroners were omitted from the bill as passed.

S. 63—Provides an appropriation of \$100,000 to aid tuberculosis sanatoria conforming to certain requirements of the State Board of Health to care for Virginia citizens who are not residents of the counties or cities jointly maintaining these sanatoria.

BILLS LOST

S. 20—Providing for examination and certification of barbers.

H. 184—To provide for sexual sterilization of inmates or patients in certain cases in state institutions and repealing a former sterilization act.

S. 52 and 53—Providing for graduation from a four-year high school before entering a school for embalming.

H. 215—(Incorrectly numbered), proposing to declare the competency of certain testimony in actions based on want of professional skill or negligence in the use thereof.

H. 310—To amend and re-enact the Code in relation to persons permitted to practice veterinary medicine or surgery.

S. 364—Requiring persons selling patent or proprietary medicines and cooking preparations containing more than 10% alcohol to keep the name of the purchaser and report thereon monthly to the clerk of the court giving names, addresses, and ages.

H. 401—(Erroneously numbered). Providing that any person over 21 years of age who has practiced optometry for not less than one year be granted a certificate without examination.

H. 96—Providing for sexual sterilization of inmates of state hospitals governed by a board appointed by the Governor and receiving state appropriations and adding syphilis or congenital blindness to the list of causes for sterilization.

Several amendments to the Workman's Compensation Act were proposed, some of which were lost, others passed. Refer to Workman's Compensation Law of Virginia, a copy obtainable from Division

of Purchase and Printing, State Capitol, Richmond, Va

Respectfully submitted,

ENNION G. WILLIAMS,

J. L. HAMNER,

A. L. GRAY, *Chairman*.

October 21, 1930.

Motion was made that this be received and filed. Carried.

Report of Membership Committee

Dr. J. A. White, chairman, gave the names of three doctors who wish to become members of the State Society, but who live in counties which have no component society or are inactive, and asked what should be done about them. Discussion brought out the information from councilors that one resided in a county which is now in process of organization and he was requested to join through that society; another was in the jurisdiction of a component society and should present his application to that organization; the councilor for the society of the third promised to make an attempt to revive that society and have this doctor join through the regular channels.

Dr. White then moved that Dr. Grandy, the retiring President, be made an honorary member of the Society. Seconded and carried.

Report of the Publication and Program Committee

Your Publication and Program Committee has made an effort under the present Constitution and By-Laws, to correct certain unsatisfactory features of the reading of papers. As you know, a large part of each annual meeting of the Society is designed and given over to the reading of papers of, and discussion by, members who have responded to a request inviting them to send in titles of papers. This invitation or request (see Constitution and By-Laws, page 8, Art. VI., Sec. 13), provides that The Executive Secretary-Treasurer shall mail notices to members two months before the annual session, asking for papers, and shall, under the direction of the Publication and Program Committee, prepare and send to each member a program of the annual session. This invitation usually brings a response of from forty-five to fifty titles of papers.

Besides this, following a precedent of many years, the committee meets in the spring or early summer and selects for discussion a subject for special study (known as the symposium) and invites usually from three to four members of the Society to prepare papers on designated parts of the general subject. This symposium has a special time and takes usually about an hour and half. The President is directed to deliver an annual oration and usually exercises the privilege given him to invite "as many as two orators at the annual session." No time limit is, of course, set for these speakers; but all other speakers or readers of papers are allowed only fifteen minutes. In addition to these features, at each meeting some form of entertainment may be put on in the afternoon or evening—as, for instance, an oyster roast, a barbecue, or a reception.

Now the Publication Committee is charged with the duty, under the Constitution and By-Laws (Article VIII, Sec. 3 of the By-Laws), of preparing the annual program, and (Article III, Sec. 8), may divide the scientific work of the Society into two or more sections. This year, with the invitation to send in titles of papers accompanied by abstracts of 250 words, there were sent in titles and abstracts of

forty-three papers. These, with the symposium made forty-seven papers, and in this is not included the President's address or the papers of invited guests. With this number of papers and having only space and time for some thirty-seven, including the symposium, it was necessary to place ten papers in a group to be read if time permitted.

This shows that there is a wealth of papers but not time in our present plan to utilize them. So the Publication and Program Committee would like an expression from the House of Delegates as to its wishes in the matter of future programs. Some societies follow the plan we have been using; others divide the program into sections—medical, surgical and the specialties. These sections have separate and combined programs. Then there is a combined meeting with selected speakers and titles forming a series of symposia. There seems a tendency not to invite volunteer but to select subjects and speakers. Under this plan a program of a wider educational value is possible, for by this means a course of subjects can be discussed that partakes of the nature of a series of lectures of post-graduate curricula. Some societies invite leading men of the country, especially fitted in a given field, to deliver special papers and invite local members to present papers in a symposium on the same subject.

Your committee knows that the present plan has been the target of much criticism, but has felt that under the restraint of precedent and the Constitution and By-Laws, it should continue the general plan heretofore followed, unless, after discussion, the House of Delegates should feel that a departure should be made looking to a wider application of the plan of having a series of symposia or of having papers only from those invited, thus conforming to the idea of post-graduate study of medical and surgical problems. We throw out the suggestion and invite an expression.

In regard to the publication of the VIRGINIA MEDICAL MONTHLY, the official organ of the Medical Society of Virginia, it is needless to report, except to say that this magazine goes to each member each month; that it attempts to publish the proceedings of this Society and scientific papers written by its members; that it endeavors to give official information concerning the work of the officers, committees and auxiliary bodies of the Society; that it devotes a portion of the space to current news of medical events and persons; that it records important medical happenings which are thought to be of interest to the membership; that it strives in its editorial department to place before its readers, both urban and rural, a popularized consideration of important medical problems and advances in medicine, striving to avoid matters of a controversial or argumentative nature; that it maintains a department for the expression of personal views, open to any member, being subject only to reasonable restriction.

Respectfully submitted,

ALEXANDER G. BROWN, JR.,
Editor and Chairman.

This was ordered received and filed. Dr. J. P. Williams moved that the matter of programs be left to the discretion of the committee. Seconded and carried.

Report of the Medical Economics Committee of the Medical Society of Virginia

MR. PRESIDENT AND MEMBERS OF THE HOUSE OF DELEGATES:

The Medical Economics Committee has had very

few questions brought to their attention during the past year.

The committee cooperated with Drs. W. E. and J. W. Smith, of Farmville, Va., in defending a suit which resulted in a verdict favorable to the defendants. The Society paid them \$300 to aid in defending this case. This is the last case that will require the help of the Society in giving financial aid in medical defense cases.

Limited efforts have been made to induce our members to carry Medical Defense Insurance in larger numbers. We are sorry this effort has not met with greater success. We believe their failure to carry Defense Insurance is due largely to their not giving this question serious thought, and we recommend that efforts be continued to inform the personnel of the advantages to them and try to encourage a larger number to carry Defense Insurance so that they can get the benefits of a lower rate.

Respectfully submitted,

M. H. HARRIS,
P. W. HOWLE,
JOHN O. BOYD, *Chairman,*
Committee.

It was moved that this report be received and filed. Carried.

Report of Committee on Medical Education and Hospitals

In consideration of the fact that at the last meeting of your body plans were consummated creating your Committee upon Clinical Education, the duties of which committee embrace that of fostering and administering post-graduate work and correlating it with the work of hospitals and schools, your Committee upon Medical Education and Hospitals has, as a result, found, for the present at least, its opportunity for constructive work somewhat limited. However, it is deemed that some general remarks in the way of a report may not be inappropriate.

In accordance with the plans worked out at the Charlottesville meeting, it has been the privilege of your Committee upon Education and Hospitals to participate in an advisory way with the Committee upon Clinical Education and to keep in touch relative to the practical operation of this new department. Through the efficient work of Dr. J. Allison Hodges upon whom, in the capacity of President-Elect, has devolved the administration of this department, real progress has been made and a surprising interest developed throughout the State, and a splendid spirit of cooperation among the profession manifested.

The work of Dr. Hodges in conjunction with the Council, looking to the stimulation of the desire upon the part of practitioners throughout the State to carry on their training subsequent to their graduation has been most painstaking and thorough. In this connection your Committee begs leave to state that the series of monthly letters published routinely during the past year by both your President-Elect, Dr. Hodges, and by your President, Dr. Grandy, have supplied just the links that were needed to connect up the scientific with everyday practice. They have been timely and helpful and have set a precedent which we believe should be followed by the officers succeeding them.

Touching the matter of the work of our two medical colleges of the State, it is a pleasure to report that both have made substantial advances in the past year in the matter of organization and in the character of the work done. It is a pleasure also to note the excellent scholastic standards of

both institutions as evidenced by the records made by their graduates before the various Boards of Examiners, and elsewhere.

It is, we believe, appropriate also for us here to call attention to the increasing interest manifested throughout the State in the Post-Graduate Clinics which both medical colleges at fixed intervals are now holding in conjunction with the Committee upon Clinical Education. Many practitioners of the State are learning to look forward to these clinics as a source of renewed stimulation and as a means of keeping informed relative to recent advances.

Touching the matter of the hospitals of the State, while there are evidences of an increasing realization of their responsibilities to interns, the facilities as yet afforded in Virginia for the proper training of interns subsequent to their graduation cannot be said to be all that is desired; there is reason to hope, however, that the increasing popularity of Staff Meetings of the better hospitals and the cooperation which is developing between them and the Committee upon Clinical Education may stimulate all of the hospitals in the State to so arrange their work as to give more systematic training and thereby place the intern, upon his discharge from the hospital, in a position that his credits may be more helpful to him as a recommendation in such localities as he may wish to establish himself.

Any appraisal of the medical educational facilities of the State would be incomplete without mention of the steady improvement in the character and contents of *THE MONTHLY* which has now come to rank among the best of the organs of State Societies.

A word more relative to our two medical colleges. Undoubtedly, the drift of the more modern colleges is toward that of changing the present four-year courses into three, making up the difference in shorter summer vacations. The handwriting is on the wall. Would it not be the part of wisdom for our two schools to begin to give careful consideration to this matter?

Even a superficial study must convince anyone with an open mind that medical practice, medical training, and perhaps also medical economics, are at this time in a transitional stage and that rarely have the opportunities and responsibilities of those entrusted with the administration of these matters been greater.

Respectfully submitted,
J. W. PRESTON, *Chairman*,
A. L. TYNES,
P. ST. L. MONCURE.

Motion was made that this report be received and filed. Carried.

The Ethics and Judiciary Committee had no report to make.

Reports from Special Committees were next called for.

Report of Walter Reed Commission

In the absence of Dr. E. C. S. Taliaferro, chairman, Dr. C. P. Jones, secretary, stated that the Walter Reed Commission is out of debt and has a small balance in the treasury. Belroi is open to visitors and signs are posted throughout the county. If the door is locked, you can find the key across the road in the store. The house is well looked after by a woman in Gloucester county, and the grass is kept cut. The Committee has tried to take the story of Walter Reed to the school children. There is much data to be obtained for this work.

Report of the Maternal Welfare Committee, Medical Society of Virginia

TO THE MEMBERS OF THE HOUSE OF DELEGATES:

The Maternal Welfare Committee of the Medical Society of Virginia was called to order March 9, 1930. Those present were Dr. P. W. Miles, Danville, Dr. Ruth Mason, Petersburg, Dr. Greer Baughman, Richmond, Dr. C. B. Bowyer, Stonega, and Dr. Charles R. Grandy, Norfolk, were not able to attend. By invitation Dr. Mary E. Brydon, Dr. W. A. Plecker, Miss Nannie B. Minor, Mrs. Bennett, all of the State Board of Health were present.

Dr. Greer Baughman was elected chairman and Dr. Mary E. Brydon was elected secretary.

Reports of the progress of the work of the committee during the past year were discussed. Reports were made by the members of the committee of the maternal welfare work in their respective cities.

It was decided to write to all health officers of the counties and cities of the State, requesting them to push the maternal welfare work in their communities.

Mrs. Bennett reported upon the work of instructing midwives. She was urged in her instruction to point out the danger to the pregnant women if the midwives were to take upon themselves the duties and responsibilities belonging to the trained nurses and the doctors.

Dr. Ruth Mason and Miss Minor were requested to confer to the end that the county nurses might be instructed how best to cooperate with the doctors in giving instruction to indigent pregnant women.

Dr. Brydon was requested to write to the secretaries of the county and city medical societies urging that they hold a symposium upon prenatal care during the year.

The chairman was instructed to ask Dr. J. Allison Hodges to make instruction in prenatal care prominent in the post-graduate courses planned for the doctors of the State.

The individual members of the committee have been carrying out the above outlined plans.

On April 13, 1930, Dr. Mary E. Brydon died after a brief illness. The committee wishes in this official report to express our appreciation of the excellent work done by our secretary, Dr. Mary E. Brydon, who served us so faithfully from the time this committee was first organized until her death.

Respectfully,
GREER BAUGHMAN, *Chairman*.

Motion was made that this report be received and filed. Seconded and carried.

Report of Committee to Investigate Problems Pertaining to Laboratory Technicians

THE HOUSE OF DELEGATES, MEDICAL SOCIETY OF VIRGINIA:

I submit herewith a report of the Committee to Investigate Problems Pertaining to Laboratory Technicians.

Several years ago the Society authorized the appointment of a committee to study the laboratory technician situation in the State and this work has been in operation since with a varying membership but same chairman who has made a report each year to the House of Delegates. When this investigation started there were a number of poorly trained clinical laboratory technicians in the State and their work was giving concern to a number of hospitals, clinicians and pathologists. Your Committee surveyed the State in several ways and has

been glad to report some improvement in the quality of their training, coming about slowly by natural means, in line with the trend of popular education, and by the personal efforts of a few members of the Society.

During the year now closing, your Committee has had no assembled meeting, although its members have been in touch by correspondence. The Chairman felt that no particular matter of importance justified assembling the members from their scattered positions. He has as in former years carried on a large correspondence and personally had conferences with about a hundred persons seeking information about laboratory training or advice about places in the State to get this and is glad to say again that he believes that a better type of person is entering the field and that in general they are reasonably well trained. He believes from his correspondence that interest in the possibilities of laboratory work for young women is increasing and that better educated persons are actually applying for training.

As before reported there are three organized laboratory instruction courses given by schools in the State, the University of Virginia, the Medical College of Virginia, and the Alleghany School of Medical Technology in Clifton Forge. The latter is privately conducted and, situated in a small town, appears to offer limited facilities in practical experience. In the last annual report of this Committee a reference was made to this and was followed soon by correspondence between the Director of the Alleghany School and the Chairman of your Committee, copies of which were sent to the members for information and advice. The director of that school felt that an inspection of his institution was the only fair thing to do before further criticism and we agreed with him. This has not been found practicable completely but the Chairman did visit the Alleghany School and unfortunately found the director out of town, making it hardly a full and fair inspection. This has been written to him by the Committee and so far he has not replied. Therefore, we feel that no further action is necessary at present within the authority of your Committee, and its Chairman believes that the former position is justified.

Laboratory technicians are also trained in various hospital laboratories and to a limited extent by the Laboratory of the State Board of Health. These laboratories are doing this as their own contributions to the situation and, in general, it is well done and appreciated.

In conclusion, the Chairman recommends that this Committee be discontinued, probably having served its purpose; that if continued its chairmanship be given to someone other than the present incumbent; that if continued the matter of the Alleghany School of Medical Technology be dropped unless additional instructions from the House of Delegates be given the Committee.

For the Committee may I express our appreciation of the privilege of serving the Society and profession in this small way and express the hope that our efforts have helped to improve the laboratory technician situation in the State and to facilitate a fuller understanding between the profession and these valued and necessary assistants.

R. D. CALDWELL,
W. B. MARTIN,
A. H. STRAUS,
J. D. WILLIS,
CHARLES PHILLIPS, *Chairman*.

It was moved, seconded and carried that this report be received and filed. Dr. W. A. Shepherd moved that in accordance with Dr. Phillips' request, this committee be discontinued, as there is a national society that could take care of this work throughout the State. Motion seconded. Dr. Clarkson wished to know what was to be done about the school at Clifton Forge. He stated that he recently had a graduate of this school work for him and found her thoroughly incapable and felt something should be done to prevent this school from giving certificates to people inadequately prepared. Dr. H. C. Jones asked Dr. Shepherd what was the name of the organization to which he referred to take care of the training of technicians in Virginia. Dr. Shepherd stated that he knew of no such organization; that he referred to the American Society of Clinical Pathologists. Dr. Clarkson moved that the committee be discontinued and that a new committee be appointed with a view of petitioning legislature to regulate the training of technicians in the State. Seconded and carried.

Report of Library Committee.

As we have made known in reports of several previous years, our Library Committee has been endeavoring to secure suitable headquarters for the Medical Society of Virginia in which to collect and preserve the records and where we may also assemble the beginnings of a Library.

Through the kind efforts and cooperation of Dr. Stuart McGuire, we are now very hopeful of being able soon to realize our expectations.

The Richmond Academy of Medicine and the Medical College of Virginia have purchased a lot, corner of 12th and Clay Streets, on which they propose to erect a home for the Academy and a library for the College. These two buildings will be physically connected. Each will serve to augment the facilities of the other. Working plans and specifications for these buildings have been drawn and they provide dignified and convenient headquarters for the Medical Society of Virginia. While there have been some unavoidable delays in carrying out the original plan, there is good reason to believe that the buildings will be under construction during the coming year. We feel that the Medical Society of Virginia will be very fortunate to secure headquarters in this new Library Building.

Respectfully submitted,

I. C. HARRISON, *Chairman*.

It was ordered that this report be received and filed. Seconded and carried.

Report of the Committee on the History of Medicine in Virginia

During the past year the volume entitled "The History of Medicine in Virginia in the Seventeenth Century" has been issued by the William Byrd Press, of Richmond, Va. The publication has entailed no expense to the Medical Society of Virginia, since the William Byrd Press took the contract on a royalty basis. If there is any money to be made out of this publication the Medical Society of Virginia will share it with the publishers only.

I am informed by the publishers that very few copies have been sold to date to members of the profession in Virginia.

An appropriation of \$600.00 is requested to carry on the research work needed to gather material for

the publication of the other volumes covering the Eighteenth and Nineteenth Centuries.

WYNDHAM B. BLANTON, *Chairman,*
Committee on History Medicine in Virginia.

It was moved that this report be received and filed. Dr. Gray made a motion that the Medical Society of Virginia express to Dr. Blanton and his committee their most hearty thanks for the perfectly beautiful volume that his committee has gotten out and that we urge our members to purchase at least one of these valuable books, which can be bought by the members at the price of \$4.00. Seconded and carried.

Report of Committee on Child Welfare

TO THE HOUSE OF DELEGATES:

We, the members of the Child-Welfare Committee, wish to submit the following activities for the past year:

Our first meeting was held in the office of the State Health Department, November 26, 1929, in conjunction with the Child-Welfare Committee of the Virginia Pediatric Society and Health Committee of Division Superintendents of Schools. At that meeting our Committee was represented by Dr. A. T. Finch, only member able to attend. Jointly, those Committees considered the health examinations and corrections of physical defects of the children who expect to enter school for the first time. The following resolutions were adopted:

1. That the responsibility of the health examinations of the pre-school children be placed in the hands of the Division Superintendents of Schools of each County and the local Board of Health and that they cooperate with the local doctors.

2. That we endorse the report of the Child-Welfare Committee of the Medical Society of Virginia and that we recommend a fee to be charged for the health examination of the pre-school child such as the doctors and superintendents see fit to recommend.

3. That we endorse the blue and two white card system now in use by the State Department of Health for the health examination of the pre-school children.

Our next meeting was held in Richmond, January 8, 1930, during the Annual Nurses' Convention. Dr. A. T. Finch, Dr. Percy Harris and Dr. W. P. Jackson were present from our Committee. We met with the nurses' section and reported activities of our Committee to them. The interest and enthusiasm of those nurses were more marked than at any meeting which we have attended. The occasion was a real inspiration.

Not many months later we were shocked by the death of Dr. Mary E. Brydon, our inspired leader. We wish to submit the following resolution on her death:

We feel that we have lost a real, inspiring leader, one whose general work not only stood out as that of the highest type in Virginia, but her work in Child-Welfare and in putting into motion movements that would save the lives of little children was so outstanding that her methods and plans were attracting national interest. We feel that we have lost not only a personal friend but a great, noble and inspiring worker.

Indeed, she has thrown a torch to us, ennobling and enlightening the work for children. May we catch this torch of light and service and carry it forward in the great work of conservation of children.

Since then, we have held no regular meeting but have been informally working with the State Health Department at Richmond. We sent out during the

summer a tentative program for improving the physical condition of pre-school children of the State.

The ultimate goal of this program is:

1. Every child a five pointer.
2. Every child protected against smallpox.
3. Every child free from remediable defects.

We propose a survey each winter of children eligible for entering school next session. The survey is to be conducted through the cooperation of public health nurses and superintendents of public schools. After the surveys are made and the names of the family physicians of the children obtained, arrangements are made for examination of the children by their doctors. The defects are to be corrected during the summer before school time. Copies of these programs have been sent to the School Superintendents of the State and with very few exceptions, very favorable comments of the program have been made.

Reports from the nurses in the field indicate very definitely that an increase of interest and cooperation both by the parents and family physicians is taking place. Incomplete reports indicate a steady increase in the number of examinations and number of corrections of defects, and we have good reason to believe that the program is being well accepted over the State.

Our Committee feels that inasmuch as the large part of its work is that of presenting the program to the Doctors of the State, we would like, if it meets with the approval of the Medical Society, to see the Committee increased to have one representative from each Congressional District of the State. We have obtained a list of the doctors who have shown particular interest in this work and shall be glad to submit their names for consideration of appointment on this Committee, if so desired.

We want to compliment the State Health Department on having secured Dr. Bagby to succeed Dr. Brydon. From his past record of achievements we believe he is thoroughly capable of carrying on the work which she had started. We wish to give him our whole-hearted cooperation in carrying on this great work.

A. T. FINCH,
PERCY HARRIS,
J. H. HIGDEN,
W. P. JACKSON, *Chairman.*

It was moved that this report be received and filed. Seconded and carried.

Dr. Grandy stated that the report of the Department of Clinical Education would be called for at 10:00 A. M., Wednesday, as a special order of business, so that we could have with us at this time Dr. Sanger, President of the Medical College of Virginia, and Messrs. Zehmer and Eutsler, of the Extension Department of the University of Virginia, who had assisted Dr. Hodges greatly with the work of this Department.

Under new business, Dr. Grandy read the following paragraph in a letter from Dr. E. G. Williams:

"There is another matter which I would like to take up with you—the appointment of a committee from the Medical Society of Virginia to advise with the State Health Department in regard to the conduct of tuberculosis clinics, in the same way as we already have a committee on maternity work and a committee on infant work. I believe it would be well to have this committee appointed so that it can be approved at the first session of the House of Delegates so it can have a meeting while in Nor-

folk. We, of course, would like to have an X-ray man, a tuberculosis man and the others rural practitioners. We, of course, do not hold clinics in the cities. We do not want anyone already connected with the State Department of Health but want the committee to really represent the Medical Society of Virginia."

Dr. D. C. Smith made a motion that a committee of five on Tuberculosis Clinics be appointed to aid and criticize, if necessary, the work of the State Health Department in the conduct of Tuberculosis clinics. The motion was seconded and carried.

Dr. Smith presented the following resolution with regard to the Venereal Disease Problem in Virginia:

WHEREAS, The Venereal Diseases present one of the major problems before the medical profession, as shown by morbidity and mortality statistics and by the fact that at the sixty-first annual meeting, Syphilis was chosen as the subject of the symposium, and

WHEREAS, These are preventable by the widespread use of modern diagnostic and therapeutic methods.

BE IT RESOLVED, That the Department of Clinical Education of the Medical Society of Virginia and the State Board of Health of Virginia be requested to evolve a program for the better handling of these diseases. It is suggested that a full time health officer in the Venereal Disease division be added as soon as practicable and this individual begin a state-wide educational program for the physician and general population.

This resolution was seconded and carried.

Upon motion, the House adjourned until Wednesday morning.

October 22, 1930.

The House convened on Wednesday morning with the President, Dr. Charles R. Grandy, in the chair.

A quorum being present, the Nominating Committee was then selected as follows:

- 1st District—Dr. C. P. Jones.
- 2nd District—Dr. J. L. Rawls.
- 3rd District—Dr. W. A. Shepherd.
- 4th District—Dr. W. C. Harmon.
- 5th District—Dr. J. T. Shelburne.
- 6th District—Dr. W. R. Whitman.
- 7th District—Dr. W. E. Brown.
- 8th District—Dr. G. F. Simpson.
- 9th District—Dr. J. B. Muncy.
- 10th District—No one present.

Dr. J. A. Hodges, President-elect, then took the chair. While the Nominating Committee was out of the room the following recommendations, with preamble, were presented by Dr. W. O. Bailey, secretary of the Loudoun County Medical Society:

MR. SPEAKER AND GENTLEMEN:

It is my pleasure and my privilege today, with your kind indulgence, to depart from what has probably always been an unbroken principle in this legislative and deliberative body of the Medical Society of the State of Virginia. I have come as a representative of the County of Loudoun, clothed with definite and specific written instructions as to exactly what I shall present to you for your serious consideration.

Clearly to understand why I am here, and to convince you that you should lend a sympathetic and attentive ear to what I have to say, I must state, very briefly, the evolution of the physician since his arrival in America, and I must point out changes, sometimes metamorphic, which have characterized this remarkable evolution.

At first, isolated, and often alone, in an empiric and, at times, supernatural world, he was accorded a respect and deference which the people and the times generously and voluntarily gave in token of his loyalty, affection and heroic self-sacrifice, often to the point of actual physical self-extinction.

But these times were not to last. The intellectuality of the people was as primeval and vigorous as their great indigenous forests. Coincident with material achievement in the arts and sciences, hand in hand, went medicine. The omniscient physician of yore, with a cheerful willingness which has always characterized him, surrendered, for the public good, one by one, those responsibilities, privileges and authorities, which had hitherto been so safely vested in him, to each new type of specialist as he came, in the name of science, and with laudable justification, clamoring, omnivorous and unappeased, for more and more and more.

For the people, with good roads and more money, came general and higher education. They understood and were impressed by panoply and yielded to the seductive charm of the well-equipped office and the gracious, engaging and alert man therein ensconced.

The faithful servant of the individual at first looked upon the servant of the institutions and edifices which he himself had helped materially to construct by furnishing human material for study, with amusement, then apprehension and, finally, bewilderment.

But these strange transmutations were not to stop here. Religious and therapeutic cults, the dispensers and vendors of medicines, life extension institutes, and even the clinics and hospitals in which he, and the man to whom he had gratuitously delegated so much of his authority, served, flashed suddenly into vigorous and threatening being. The trained nurse and the midwife, encouraged by his unrelativelike amazement, invaded him with thoughtless and unreckoning ruthlessness and on account of his apparent pusillanimity and lack of decisiveness, State and Federal governments began to wonder if he were really a safe person, in his unorganized and wavering state, to whom to entrust this very precious utility of public health.

Loudoun County and Fauquier, with affectionate concord and sympathetic understanding, believe that, to meet these new and rapidly changing conditions, the following recommendations should be laid before you for your serious consideration and have so instructed me. In this connection they call attention to the incidence of socialized medicine in Austria, Hungary, Germany, Russia, the Balkans and, at last, in conservative, traditional, unemotional England, which apparently has finally succumbed.

RECOMMENDATIONS

1. The Medical Society of Virginia confer with dispensers and vendors of medicine to minimize the evils of their traffic.
2. The therapeutic cultist be controlled by exposition of the truths of legitimate medicine through the press.
3. Effort be made to control life extension institutes, radio medicine, etc.
4. The medical schools inaugurate a course in medical economics in the schools and accept re-

sponsibility for guiding young physicians in the fields best suited to their abilities.

5. A survey be made to ascertain the number of physicians needed in the various localities of Virginia and that some effort be made to control this supply by judicious advice and sensible cooperation based upon numerical facts. This to include placing of specialists in rural districts.

6. A survey be made to learn what net profit physicians actually earn over the average life period and how this compares with a future as a salaried physician.

7. A strong central organization be established, supplying strong intermediary links between the county societies and the State society. These links exist sparsely at present.

8. The State society impress upon communities that charity is the taxpayer's responsibility and not that of the individual physician and make recommendations to meet this situation.

9. A fee table for the State be established to include rural practitioners, with no discrimination against the latter.

10. That county societies be impressed with the necessity of telling people the truth about themselves and, where county societies are unable to do this, the central organization furnish matter for publication in the local paper.

11. That pharmaceutical houses which advertise directly to the public, without any supervision as to the reliability of their products, be investigated and, if their actions warrant it and their products deserve it, be dealt with in some summary and effective manner.

12. That it be recognized that it is no longer possible for the profession of medicine to keep out of politics, in fact, it is already in politics as indicated by its futile, unorganized efforts in the Sheppard-Towner legislation and the Federal Narcotic Dictator Laws. Impress upon the Society that the only language which State and Federal governments understand is VOTES. Let VOTES be organized to secure better public health for the people and security for the physicians who directly secure this for them. (This includes all physicians in private practice.)

Dr. J. L. Rawls moved that these recommendations be referred to the Committee on Public Relations, which was to be appointed, and that they report to the Council during the interim of the sessions and have a detailed report at our next annual meeting. Seconded and carried.

Dr. R. H. Harrington, of Grayson County, said that the members of Carroll-Grayson County Medical Society had been flooded with requests from insurance companies for information on non-medical examinations. It was stated that they made insurance examinations only and gave no opinions. The doctors asked for a minimum fee of \$2.00 for all opinions given, but the insurance companies refused to grant the request, so they were withholding their opinions with regard to risks. He said the doctors in these counties would like to have an expression from the Society in defending or condemning their action.

Dr. C. L. Harrell moved that we favor the stand that Carroll and Grayson county doctors have taken. Seconded and carried.

Dr. Hodges appointed Drs. C. L. Harrell, A. D. Hart, and J. R. Allen as tellers.

From the report presented by the Nominating Committee, the following officers were elected, Dr.

J. Allison Hodges, Richmond, automatically succeeding to the Presidency:

President-elect—Dr. I. C. Harrison, Danville.

Vice-Presidents—Dr. J. M. Hutcheson, Richmond; Dr. M. B. Hiden, Warrenton; Dr. C. B. Bowyer, Stonega.

Executive Secretary-Treasurer—Miss Agnes Edwards, Richmond.

The districts electing councilors announced the following appointments for a term of two years:

2nd District—Dr. P. St. L. Moncure, Norfolk.

4th District—Dr. Wright Clarkson, Petersburg.

6th District—Dr. J. R. Gorman, Lynchburg.

8th District—Dr. J. E. Knight, Warrenton.

10th District—Dr. J. M. Emmett, Clifton Forge.

Drs. J. W. Preston, Roanoke, and E. C. S. Taliaferro, Norfolk, were elected as delegates to the American Medical Association for a term of two years, Dr. Southgate Leigh, Norfolk, holding over for another year. D.s. J. E. Marable, Newport News, and E. G. Williams, Richmond, were elected alternates for a term of two years, and Dr. Charles R. Grandy for a term of one year.

Invitations for our 1931 meeting were presented from Roanoke, Richmond, Lynchburg, White Sulphur Springs, W. Va., and Old Point Comfort, Roanoke being selected by a majority vote.

Dr. Grandy, who had now taken the chair, called on Dr. J. Allison Hodges for his report from the Department of Clinical Education.

Report of The Department of Clinical Education.

This Department was authorized by the House of Delegates of the Medical Society of Virginia at its last annual meeting in October, 1929, in Charlottesville, and held its first meeting for organization in Richmond on December 4, 1929. Since that time, numerous conferences have been held with individual members, and one Fall meeting to outline the program for the year. This scheduled program has now been completed, and the members of the Society have been informed regularly through the monthly issues of our Journal of this work.

The aim has been to cooperate with the constituent county societies, and assist them in carrying the advances of modern medicine to their members in their own home communities, and, resultant, to stimulate an interest in Continuation Medical Study. Wherever an opportunity has been provided, the results apparently have been entirely satisfactory, and a demand has been created in these sectional areas for a continuance of these meetings. Only two sections of the State that were offered the services of the Department failed to perfect arrangements, and these have signified their intention to hold special clinical meetings later this year, or next.

Many different methods have been tried out, details of which have been given elsewhere, but the most successful has been the introduction of non-surgical clinics into the regular Society programs, these usually being demonstrated by some clinical teacher or teachers from the two State medical colleges, selected by the local Society, but engaged, and traveling expenses, when necessary, paid by the Department. Forty-two different clinicians have assisted in these meetings. The smallest number of physicians attending any one meeting was thirty-seven, and the largest number more than three hundred.

The clinical features have always been in addition to the programs sponsored by the local societies, and these combined scientific and clinical meetings have proved most satisfactory, as well as instructive. Meetings have been held by ten societies

directly in conjunction with the Department, and a number of others have been assisted in various ways.

All of the appropriation voted last year for expenses, and for which vouchers are now held by your Executive-Secretary, has been expended except a few dollars, but it would be as improper, as unjust, not to mention that this amount has been very considerably augmented during the year by the generous cooperation in services and contributions of a number of the Society's members and others. These are most highly appreciated, and the spirit of these co-workers has found its reflex in the activated stimulus of the profession for Continuation Medical Study, which is also most gratefully recognized and valued by this Department. No additional expenses have been incurred by any local Society, and the Department has sought for itself only an Educational profit.

Continuation Medical Study after graduation is, and has been, and will be the main work of this Department, for as the profession keeps itself educated, so will its standards and successes continue to be more perfect and more permanent, and all our doctors will be thus equipped to give service to their fullest capacity.

In fact, the prime object of attainment in our professional lives, as well as our supreme duty, is to save and salvage human life, and to accomplish this most successfully, we must be educated, and keep educated. Our scholastic education is but the preparation and basis for our education as practitioners. These two methods of education are essentially different, the one being but preparatory and the complement of the other, for the educative process of the physician, must be continuous and progressive. Types of disease change, clinical methods vary, and a new therapeutics is always to be studied and practiced before its virtual acceptance. This requires preparation, plus experimental knowledge, plus thoughtful, reasoning, and the amount of individual and collective professional success is the sum of these important factors. To make these universal and as valuable for the patients as for the doctors in our State, the Department of Clinical Education of the Medical Society of Virginia is earnestly striving, and it again urgently requests the cooperative mutual interest and assistance of every member.

It is realized that in reports of this kind, it is unusual to make a plea for sustenance and continuance of a policy or special plan of any nature, but the importance of some movements, especially this one of Graduate Extension Medical Education, appears to justify this course now, for though this is an old problem, it is a new undertaking for us.

The Medical Society of Virginia, by its action last year, however, assumed the responsibility and recognized its very definite obligation to its members to assist them in this Continuation Medical Education. Furthermore, it has made this its continuing work, and it is believed that as a professional movement, it is the greatest single constructive contribution that organized scientific medicine can make to professional practice. It is a task that the Medical Colleges cannot meet adequately nor universally. This burden and the responsibility are upon us.

President James Madison once said: "In all great movements, it has been the habit of Virginia to take the lead," so, in this movement for the good of the profession and of the people, in fact, in this struggle in which science is carrying on the war unceasingly, and without compromise against disease, let us highly resolve to do our full and willing part.

In conclusion, the following recommendations are proposed for your action:

First, that the name of the Department of Clinical Education be changed to the Department of Continuation Education for Practitioners;

Second, that the Chairman of the Department, as at present, shall be the President-Elect of the Society, unless, because of personal or other valid reasons such as inaccessible location, etc., he feels that he cannot fulfill adequately the necessary duties of the office; and in such a contingency, the Chairman of the Department for the current year shall be selected by the President of the Society and the regular members of the Department at the first meeting held after each annual meeting of the Society, as arranged for in the original plan of organization for the annual election by this group of its members;

Third, that the Medical Society of Virginia endorses the effort of its Department of Clinical Education to multiply and improve the facilities of continued medical instruction offered for the benefit of physicians in all sections of the State and by whatever methods found to be most advantageous to them;

Fourth, that in the opinion of the Society it is a just responsibility of the Commonwealth to contribute toward the educational program for practicing physicians, so as to aid them locally in keeping in thought and practice with the advancements of modern medicine, by appropriations from public funds to be expended by duly constituted public agencies under the direction of a joint committee representing the University of Virginia Medical Department, the Medical College of Virginia, and the Medical Society of Virginia; and

Fifth, that it is recommended that these resolutions be submitted to each constituent society, and that each be requested to aid as far as possible this professional educational movement, and discuss its local possibilities at some stated meeting during the year, as well as its opportunity and duty of serving its own members and other local practitioners in its immediate vicinity.

J. ALLISON HODGES, *Chairman*.

This was ordered received and filed.

A discussion of the recommendations in this report followed. The *first*, that the name of the Department be changed to Continuation Education for Practitioners was lost.

The *second* was discussed by Drs. Wright Clarkson, H. C. Jones, J. R. Allen, A. L. Gray, P. St. L. Moncure, I. C. Harrison, L. E. Cockrell, and J. L. Rawls. Dr. Gray moved that Dr. J. A. Hodges continue as chairman of this committee for another year. Motion lost on request of Dr. Hodges. Dr. Moncure moved that the President-elect should be chairman of this committee, in accordance with the recommendation. Seconded and carried.

The *third* recommendation was also approved.

In discussion of the *fourth*, Dr. E. L. Kendig stated that it would be unwise to ask for an appropriation from the General Assembly for the Medical Society of Virginia. Our two medical schools already receive appropriations from the State and an increase in their allotment could be used in furthering this work of the Society. He moved that the words "and the Medical Society of Virginia" at the end of this recommendation, be struck out. This motion was seconded and carried. In connection with Dr. Kendig's motion, Dr. Hodges then read a letter from Dr. E. A. Alderman, president of the University of Virginia, saying that the University would be willing to cooperate with the Department in any way.

Dr. W. T. Sanger and Mr. G. W. Eutsler were extended the privilege of the floor. Dr. Sanger, president of the Medical College of Virginia, stated his interest in this feature and said that the College was exceedingly anxious to render any service possible. Mr. Eutsler, co-director of the Extension Service of the University of Virginia and Acting Executive Secretary of the Department, said that the Medical Society of Virginia is pioneering in the work of furthering a continuance of medical education and in carrying this work forward in the later years of a man's life, and stated that his department would be glad to help in any way it could.

Motion was now made that Dr. Hodges' fourth recommendation, as amended by Dr. Kendig, be approved. Seconded and carried.

The *fifth* recommendation was also adopted.

Dr. Kendig now moved that the recommendations as amended be adopted as a whole. Seconded and carried.

The amendment to the Constitution and amendments to the By-Laws, as presented the previous day by Drs. Kendig and Gray, were now considered. It was moved, seconded and carried that they be adopted.

Dr. M. C. Newton, of Giles County, said that several instances had been reported in which officers in charge of the enforcement of the "Harrison Anti-Narcotic Act" had employed "stool pigeons," detectives, etc., who, by false presentations, endeavored to induce reputable physicians to prescribe narcotic drugs apparently with the idea of inviting criminal prosecution of innocent offenders. In view of this situation, he presented the following resolutions:

A RESOLUTION

The Medical Society of Virginia, in regular session assembled at Norfolk, Va., on this 22nd day of October, 1930, desires to make record of the sentiment of its membership with reference to the methods sometimes adopted in the enforcement of the Federal statute known as the "Harrison Anti-Narcotic Act":

WHEREAS, in accordance with the high ethical standards which this Association prescribes for its members in the conduct of their profession, it has consistently advocated the strict observance by them of all laws regulating the prescribing and administering of narcotics, and it feels a just pride in the record of its members in maintaining those standards;

WHEREAS, it hereby specifically declares it to be the policy of this Association that deliberate refusal, or negligent failure to observe such laws by any of its members shall incur the severest discipline;

WHEREAS, it recognizes the necessity and propriety of adequate supervision by the Government of the business of its members with reference to the prescribing and administering of narcotic drugs which have been made the subject of statutory regulation; and it welcomes and invites, on behalf of its members, the closest scrutiny of their records and every legitimate investigation of their business and professional conduct;

WHEREAS, it deprecates, and earnestly protests against, the employment by the Government, of "stool pigeons," detectives and other under-cover agents, who, by false representations, forgeries, illegal artifices and improper importunities, endeavor to induce reputable physicians to prescribe narcotic drugs in good faith that present apparent breaches of the law or departmental regulations, which invite unjust criminal prosecutions in which physicians may be-

come innocently involved. And it specially protests against employment of such agencies in the endeavor to directly induce physicians to be led into disregarding such laws and regulations, therefore,

1. It is the sense of this Association that such method of enforcement is an unfair and illegal attempt to entrap reputable and law abiding physicians and druggists that has repeatedly received the condemnation of the Courts. It should not be fostered nor permitted by any department of the Government.

2. That a copy of these resolutions be furnished to the public press; and that copies be forwarded to the Attorney General of the United States, the Collector of Internal Revenue of Virginia, each of the members of the Senate and House of Representatives from Virginia, and to the President of the Pharmaceutical Association of Virginia, the President of the Medical Association and that a record be kept for our files.

Drs. G. F. Simpson and W. R. Gardner cited cases in which attempt had been made to entrap reputable physicians, one case having been convicted and the doctor fined \$1,500. It was moved and seconded that these resolutions be adopted. Carried.

Dr. I. C. Harrison next presented the following resolutions on Mental Hygiene, based on a resolution, presented the American Medical Association at its Detroit meeting:

RESOLUTIONS PROVIDING FOR THE APPOINTMENT OF A SPECIAL COMMITTEE ON MENTAL HYGIENE

WHEREAS, Mental health is the most valuable asset that an individual or a community can possess, and WHEREAS, Mental disease and mental defect are among the most serious problems with which scientific medicine is concerned, and

WHEREAS, The hospitalization and care of an ever increasing number of patients afflicted with mental disorder or defect constitute one of the most serious economic public and private burdens, and

WHEREAS, Mental Hygiene is primarily a function of medicine, and

WHEREAS, The efforts being made by the Bureau of Mental Hygiene, a division of the State Department of Public Welfare, especially in the building up of programs of prevention and therapy, and the development of normal mental health merit the support of the medical profession of the State, and

WHEREAS, The Medical Society of Virginia desires to render whatever service it can in the solution of the problems of mental disease and defect, especially their prevention, Therefore, be it

RESOLVED, That the President of the Medical Society of Virginia appoint a special committee consisting of three members to be designated the committee on mental hygiene, this committee to render whatever service is practicable in promoting the efforts of the State Bureau of Mental Hygiene, and to report to the next annual meeting of this Society the best manner in which the Society can help in the mental hygiene movement initiated by the State Department of Public Welfare.

The above resolution was seconded and carried.

A resolution of thanks to the Norfolk County Medical Society for their splendid entertainment and courtesy to the members of our Society was offered by Dr. Harrison. Seconded and carried.

Dr. Grandy read the following telegram, which had just been received from Dr. J. K. Hall:

Dr. Blanton has justified in his volume the creation of the Historical Committee and that fact should be brought emphatically before the Society (Stop) When there is a full assemblage please speak in the deserved approval of the volume and ask others to do so (Stop) Blanton deserves a hearty vote of thanks.

J. K. HALL.

There being no further business, the House adjourned.

AGNES V. EDWARDS,
Executive Secretary.

The Truth About Medicine

In addition to the articles enumerated in our letter of September 26th, the following have been accepted:

Lederle Laboratories, Inc.

Diphtheria Toxoid.

Maltine Company

Maltine with Cod Liver Oil and Iron Iodide.

The following articles have been exempted and included with the List of Exempted Medicinal Articles (New and Non-official Remedies, 1930, p. 477):

E. R. Squibb & Sons

Tablets Digitalis Leaves—Squibb, 1 Cat Unit (approximately $1\frac{1}{2}$ grains).

Tablets Digitalis—Squibb, 1 Grain (10 minims U. S. P. tincture).

NEW AND NON-OFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Amytal.—Isoamylethylbarbituric acid.—Amytal differs from barbital (diethylbarbituric acid) in that one of the ethyl groups of barbital is replaced by an iso-amyl group. The actions and uses of Amytal resemble those of barbital. It is proposed as a sedative and hypnotic in the control of insomnia and as a preliminary to surgical anesthesia. Amytal is also supplied in tablets containing $1\frac{1}{2}$ grains. Amytal can be used before local or general anesthesia safely only by those who have had much experience and are familiar with the literature concerning such use. Eli Lilly & Co., Indianapolis.

Pulvules Sodium Amytal, 3 Grains.—Gelatin capsules ("pulvules") each containing 0.2 Gm. (3 grains) of sodium amytal, the monosodium salt of isoamylethylbarbituric acid. The actions and uses of Pulvules Sodium Amytal, 3 grains, resemble those of barbital. The product is proposed as a sedative and hypnotic in the control of insomnia and as a preliminary to surgical anesthesia. Pulvules Sodium Amytal, 3 grains can be used before local or general anesthesia safely only by those who have had much experience and are familiar with the literature concerning such use. The pulvules may be administered by mouth or rectally. Eli Lilly & Co., Indianapolis. (Jour. A. M. A., October 18, 1930, p. 1178).

PROPAGANDA FOR REFORM

Increased Potency of Viosterol Preparations.—The Wisconsin Alumni Research Foundation informed the Council on Pharmacy and Chemistry that the accumulated clinical experience with viosterol has shown that better results in the treatment of rickets are secured when a dosage of vitamin D is used larger than that originally recommended and that the maximum limits of safety as to the amount of vitamin D that can be used has now been more

definitely determined than was the case when preparations of viosterol were first put on the market. Instead of increasing the dosage of the present products, the Foundation and its licensees determined to increase the potency of the preparations. It was decided to increase the potency of viosterol in oil so that instead of having 100 times the vitamin D potency of a standard cod liver oil, as determined on rats by the Steenbock line test, it shall have 250 times that potency, and, provided the Council should agree, to increase the potency of cod liver oil with Viosterol, so that instead of having five times the potency of a standard cod liver oil as determined on rats by the Steenbock line test, it shall have ten times that potency. The Foundation announced that these preparations of increased potency would be placed on the market beginning with October first. The Council on Pharmacy and Chemistry announces that it has accepted the changes of potency determined on by the Foundation and has changed the name of viosterol in oil 100 D to viosterol in oil 250 D and the name of cod liver oil with viosterol 5 D to cod liver oil with viosterol 10 D and has continued the acceptance of the viosterol preparations already accepted, under the new names. (Jour. A. M. A., October 4, 1930, p. 1021).

Hypervitaminosis With Vitamin D.—The uncertainty as to the possible toxicity of an agent so uniquely potent as viosterol (irradiated ergosterol) awakened misgivings regarding the desirability of advocating its widespread use. These misgivings prompted the limitation of the recommended dosage within modest bounds. The pendulum of dosage had swung so far in the direction of caution that it now seems advisable to increase somewhat the concentration of viosterol in oil and in cod liver oil with viosterol and accordingly the Council on Pharmacy and Chemistry reports that preparations of viosterol in oil formerly having 100 times the vitamin D potency of a standard cod liver oil as determined on rats by the Steenbock line test are increased to 250 times that potency, and that the preparations of cod liver oil with viosterol formerly having five times the vitamin D potency of a standard cod liver oil as determined on rats by the Steenbock line test are increased to ten times that potency. (Jour. A. M. A., October 4, 1930, p. 1023).

Coffey-Humber Method for Cancer.—The remarkable publicity accompanying the introduction of the Coffey-Humber method for the treatment of cancer passed briefly into a quiet phase, leaped upward with the eastward jaunt to the congressional hearing, again became quiescent for a few weeks, and burst forth into a Sunday supplement feature. In the meantime pathologists, surgeons and other connoisseurs who have investigated the method express nothing but profound disappointment with both the clinical and the pathologic results. (Jour. A. M. A., May 3, 1930, p. 1410).

Use of Thyroid in Obesity.—The use of thyroid in obesity should always be controlled by a previous basal metabolism test. If this is normal or subnormal, it is safe for a physician to use thyroid. The best practice is to start with small doses of desiccated thyroid (Thyroideum, U. S. P.) gradually increasing. The small dose would be approximately 0.03 Gm. ($\frac{1}{2}$ grain) twice a day. The physician must keep a sharp lookout for fast pulse, nervousness or other symptoms resulting from thyroid stimulation. An obese person should not expect reduction by thyroid unless his diet is restricted, and when dietary restrictions are followed thyroid is not needed as frequently. (Jour. A. M. A., May 31, 1930, p. 1784).

Accepted and Nonaccepted Viosterol Preparations. When the question of accepting preparations of irra-

diated ergosterol arose, the Council on Pharmacy and Chemistry adopted a common name, viosterol, for this product. This name is not protected by trade-mark or copyright. It appears to have been generally adopted and is used by all manufacturers whose products have been accepted by the Council, with modifications to indicate composition and strength in vitamin D, as viosterol in oil 100 D and cod-liver oil with viosterol 5 D. These products are all required to be physiologically standardized according to the method given in New and Nonofficial Remedies and may be relied on to have the composition and antirachitic strength claimed on the label. Therapeutic claims other than those permitted by the Council are not made for them. While it is desirable that the short, concise descriptive name viosterol be generally adopted to designate irradiated (activated) ergosterol, there is a danger that it may be used in connection with some preparations in such a way as to give the impression that a product that has not been considered or accepted is one of those accepted for inclusion in New and Nonofficial Remedies. In order not to waste his time and his patient's money (or worse) by using a product of unknown strength or composition, the physician should make certain that it has been accepted by the Council on Pharmacy and Chemistry. This can be determined by a statement to that effect on the label of the product, by the occurrence on the label or package of the seal which the Council permits manufacturers of accepted products to use, or by direct inquiry to the American Medical Association. (Jour. A. M. A., June 14, 1930, p. 1923.)

The Antipellagic Vitamin.—Evidence has been furnished that the so-called accessory food factor formerly designated as vitamin B and supplied in comparative abundance by yeast apparently contains, in addition to the antineuritic vitamin, a factor which promotes growth and cures and prevents dermatitis in rats; consequently it has been regarded as identical with the "P-P" factor described by Goldberger and others as curative and preventive of human pellagra. The newest American designation of this is vitamin G—the vitamin B, of British biochemists. There is little doubt that both of these water-soluble vitamins are essential to growth and well being; and it seems reasonably certain that pellagra is due to a vitamin deficiency. It is now known that unheated yeast is rich in both and that cereals contain more vitamin B than vitamin G; milk and meat, the reverse. The vitamin G value of wheat and maize is low, as is that of dried legumes such as peas. Meat and egg yolk are richer in vitamin G than are the cereals, while liver and fresh milk are excellent sources of this dietary adjuvant. (Jour. A. M. A., October 12, 1929, p. 1149.)

Undulant Fever.—A specific treatment of undulant fever is not yet available. The use of serums has proved disappointing. Vaccines have given more encouraging results according to recent reports from the continent. In particular, an antigen prepared from dried *Brucella abortus* has seemed efficacious in a small number of cases. In this country the use of acriflavine hydrochloride has been suggested to shorten the duration of the disease (Jour. A. M. A., November 9, 1929, p. 1475).

Therapeutic Claims for Theobromine and Theophylline Preparations.—The Council on Pharmacy and Chemistry reports that, questions having arisen in regard to the advertising claims that might be permitted for the xanthine derivative preparations accepted for New and Nonofficial Remedies, the Council's referee for these products presented a review of the important literature, with special reference to

the value of xanthine derivatives in vascular hypertension and arteriosclerotic conditions. In the light of this review, the Council decided that the following claims could be permitted for both theobromine and theophylline: (a) diuretic action; (b) myocardial stimulation; (c) occasionally (and more often with theophylline) relief of pain in angina and similar lancinating pains. It does not seem permissible to claim lowering of hypertension. (Jour. A. M. A., April 26, 1930, p. 1306).

The Action of Vitamin D.—Viosterol administered to animals over long periods in doses 100 times greater than the minimum antirachitic level showed no effect on general appearance, growth, reproduction, or resistance to respiratory infections. An overdosage ten times greater was just perceptibly harmful, 4,000 times overdosage definitely injurious, and 40,000 times overdosage strongly toxic. Apparently the harmfulness may be modified by other dietary factors. Recent studies have made it clearer that Vitamin D controls calcification of the skeleton by dissolution and deposition of the bone salts. The mineral content of the bones is the resultant of these two actions. Calcium and phosphorus must be present in the diet in sufficient amounts and in appropriate relationship to each other before proper bone growth or calcification can occur. No amount of vitamin can correct an absolute lack of bone-building salts. (Jour. A. M. A., May 10, 1930, p. 1505).

Gold Sod'um Thiosulphate in Lupus Erythematosus.—Gold salts have provided an effective method of treating lupus erythematosus. The treatment usually definitely improves the condition and often gets entirely rid of it. Gold sodium thiosulphate is the salt generally used in the United States. The initial dose is 10 mg. dissolved in 2 c.c. of sterile distilled water, given intravenously. If this is well tolerated, the second dose is 25 mg. given from five to seven days later. After this the dose is repeated at weekly intervals. Doses up to 50 mg. may be administered and they have been as satisfactory as doses of 100 mg. Occasionally severe reactions result from the use of the drug. The drug should not be pushed when symptoms occur from it. (Jour. A. M. A., May 24, 1930, p. 1715).

Book Announcements

The Rockefeller Foundation. Annual Report. 1929. The Rockefeller Foundation. New York. Illustrated. Octavo of 402 pages. Paper.

Protozoan Parasitism of the Alimentary Tract. Pathology, Diagnosis and Treatment. By KENNETH M. LYNCH, M. D., Professor of Pathology, Medical College of the State of South Carolina, Charleston, S. C. New York. The Macmillan Company. 1930. Illustrated. Octavo of 255-xvii pages. Cloth. Price, \$3.75.

Concerning the Origin and Development of the Chorion Amnion and Yolk Sac—The Great Importance of the Corona Radiata Cells. By FRANK A. STAHL, M. D. Rush, 1887. One time Demonstrator of Obstetrics, Rush Medical College. Chicago, Illinois. The Franklin Company. 29 plate illustrations (26 original). Pamphlet of 66 pages.

Treatment of Epilepsy. By FRITZ B. TALBOT, M. D., Clinical Professor of Pediatrics, Harvard University Medical School; Chief of Children's Medical Department, Massachusetts General Hospital. New York. The Macmillan Company. 1930. Octavo of 308 pages. Cloth. Price, \$4.00.

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DECEMBER

No. 9

Editorial

Starting the Standstill Heart.*

Medical publications for a decade or more have cited instances of resuscitation of the apparently stopped heart. The frequency of the practice of intra-cardiac injections in instances of impending death characterized by clinical evidence of an asystolic state of the heart is becoming more and more apparent. Intra-cardiac injections are frequently used in cases of the stopped heart, receiving anesthesia. Here revival of heart action by cardiac stimulants, injected directly in the musculature, is commonly reported. Few clinicians or practitioners, nowadays, have not witnessed, either in practice or in the operating room, the resuscitation of a patient who was apparently moribund as a result of asystole of the heart.

Bringing the dead to life, as this exigency of practice would apparently seem to suggest, is not really as miraculous as the affirmations concerning starting the stilled heart would suggest. Impulses and contractions of the heart, in the apparently moribund patient, may be indiscernible but may, nevertheless, be persistent or frequent enough to maintain circulatory requirements of the brain centers; an outward evidence of death may be suggested but, in reality, faint heart systoles exist. One can, however, not fail to note with interest Hyman's discussion of this question as he reports an investigation on intra-cardiac therapy by a committee working under the Witkin Foundation for the Study and Prevention of Heart Diseases (New York).

RECENT THOUGHT AS TO THE METHOD OF RESUSCITATION

The Witkin Foundation presents a conception of the best method as based upon modern physiology of heart action. It is recalled that cardiac physiology is characterized by the factors of irritability, conductivity and contractility; that this muscle function is specialized and the heart under abnormal conditions acts under stimuli from any myocardial fiber as a pacemaker. Any part of the musculature may assume temporarily more irritability than the sino-auricular node, where the usual cardiac contraction originates. Extrasystoles and and arrhythmic displays in heart action thus come about. It is this saving quality of the cardiac muscle that is utilized in the standstill heart. The first beats, it has been shown, in resuscitation of the stopped heart, appear to be extrasystoles,—the prick of the needle in the musculature of the asystolic heart initiates or spurs the heart to begin an extrasystole that enables it partially, at least, to unload and begin, in irregular fashion, the function of contractions. Unless damage has gone so far as to make the muscle incapable of response, such injecting needle initiates a series of extrasystoles and reanimation of the heart. As ventricular stimuli are apt to set up confusing and antagonistic contractions, these workers have concluded that the more physiologic response may best be secured by stimulating with needle and medication the auricular structure of the auricle rather than the ventricular musculature. It is felt that irregularities of ventricles may disarrange and embarrass cardiac function, while auricle extrasystoles in the standstill heart may activate orderly physiologic cardiac action. Hence, these observers recommend the injection of the auricle muscle and the right auricle is the objective of the injection. It has been found by them that a number 19 gage, all steel needle, measuring at least 4½ inches in length, is the best type to use. The intra-auricular route is used by inserting a 4½ inch curved needle into the third interspace at the right sternal margin. Readers interested in details may do well to read this report.

INDICATIONS FOR INTRA-CARDIAC THERAPY

This is undoubtedly a therapeutic expedient that should be employed only in selected cases. Any indiscriminate use of this method in

*Hyman—Archives Internal Medicine, October, 1930, page 553.

poorly selected cases cannot but be fraught with failure. The method under such conditions becomes discredited; unjustifiable expectations are aroused; unscientific and headlong use of this procedure, employed at the critical phase of an illness or operation, tends to bring to illrepute what may be at times a useful and heroic emergency medication.

Into two heads, according to Meyer, reported by Hyman, cases for intra-cardiac therapy naturally fall. The first group is one of the asystolic healthy heart, while the second is the asystolic acute or chronic pathologic heart.

Under the first group, the reader will recognize the heart that stops during narcosis, under anesthesia, following shocks or accidents. To the second group, with careful selection, fall the hearts with more or less acute or chronic muscular, valvular or vascular disease of that organ. But one's consideration of the subject would lead to the opinion that, in the second group of cases of heart asystole, the application of intra-cardiac injections offers far less probability of resuscitation of that organ than it does in the first group. In the presence of impending death; when radial pulse may not be found, and respiration apparently suspended, pupils dilated, and a cold sweat suffusing the pallid and death-like body, by the use of an epinephrin injection, intra-cardially, one has seen such a patient gradually display heart action and gradually recover. One case particularly meets such a specification. It was the case of coronary thrombosis associated with sudden and definite fall of blood pressure and total physical collapse. In this case, an epinephrin intra-cardiac injection revived the patient and brought out heart action that was indiscernible and the patient survived. But this is a measure for employment in the operating room rather than in the sick room following prolonged and chronic maladies where chronic changes have robbed the tissues of any possibilities of revival of function. A more careful study of this practice may properly be made and possibly the scope of its use may be widened.

Comments on Treatment of Pernicious Anemia.

A baffling disease that has remained through years, more or less resistant to therapeutic ef-

forts, such as pernicious anemia, necessarily receives renewed and varied assaults when there appears in the battle front some signs of victory. The improvement of cases of pernicious anemia, after the striking work of Minot and Murphy and others, in the administration of liver and liver extracts, has stimulated other workers in the use of other food products. Desiccated stomach has come in for its place in the therapy. The report of Sturgis and Isaacs* summarizes their work in this direction by noting that "desiccated whole hog stomach and stomach defatted with petroleum benzine was very active in inducing remissions." They used 7 to 10 gm. of the dried substance daily and endeavored to adjust a clinical dosage of 10 gms. for each million red cells deficit per cubic millimeter. They felt that the response in the increase of red blood cells was similar to that following the use of liver extract therapy. They found that the increase of 500,000 per c.m.m. per week was allowed the first eight weeks.

Another observation by Connery in the same journal† reports the effect of this treatment of pernicious anemia with an extract of fish liver. He found that an aqueous extract of fish liver administered in adequate doses induced reticulocyte response as well as an increase in red cells and hemoglobin. Connery notes the same subjective and objective improvement.

*Sturgis and Isaacs, *American Journal Medical Sciences*, November, 1930, page 597.

†*American Journal Medical Sciences*, November, 1930, page 603.

Subacute Bacterial Endocarditis in Children.

Physicians at the bedside of the ill child as well as examiners of children in the office and at the schools may read with interest an article by Leech,* entitled "Streptococcus Viridans Endocarditis in Children."

Proven cases of subacute bacterial endocarditis in the very young has been open to question. As noted by the writer, streptococcus viridans endocarditis is comparatively uncommon in children. This point is sustained by the citation of Blumer who found only one case in children under ten years in 317 cases. The Massachusetts General Hospital gave its incidence in children under ten years as 1.7 per cent.

Generally, it is held that it is a disease entity of rare occurrence in the very young but of more frequent incidence in the later juve-

**American Journal Medical Sciences*, November, 1930, page 621.

nile heart. But withal, it is not a common malady.

However, it presents a rather definite symptomatology which practitioners may well keep in mind. It seems to be an infection that is implanted upon previous lesions in the heart. It is a deadly malady. Its onset is usually gradual and is characterized by lassitude, weakness and pallor. Now and then a chill and fever, associated by marked prostration, appear in the course of the disease. The course is progressive and downward. This process may continue from one month to twelve months; it may be six weeks to nine weeks. The fever is irregular and septic in course, but not of high degree. Many of the patients (about two-thirds, according to the author) show petechiae and palpable spleens; enlarged livers have been noted in half of the cases. In about 75 per cent of these cases, previous rheumatic valvular lesions are noted. Embolism and infarction occur. Death may occur suddenly or by gradual decompensation.

Blood culture findings would seem unnecessary to prove the presence of this malady with its clear cut and positively downward course. But positive blood culture may assist in diagnosis in the early stage of the malignant process, before petechial and embolic and other late symptoms point so surely to the identity of the disease.

News Notes

*May the spirit of the Blessed Christmas
Season come to you,
And touch your world with magic through its
gifts of gladness new,
Deeper faith and truer courage, clearer vision
for life's way,
And a glowing heart uplifted through the joy
of Christmas Day.*

Married.

Dr. Charles Pennington Ryland, Buena Vista, Va., of the class of '29, Medical College of Virginia, and Miss Edith Elizabeth Finney, Washington, D. C., November 15th. They will make their home in Buena Vista where Dr. Ryland is practicing.

Dr. Reid White, Jr., Lexington, Va., and Miss Alice Miller, Montclair, N. J., August 28th.

Dr. Richard Williamson Fowlkes, Richmond, Va., and Miss Louise Fishburn, Roanoke, Va., November 15th.

Dr. Warren Womack Koontz, Roanoke, Va., and Miss Mary Winston Woodson, Lynchburg, Va., November 5th. Dr. Koontz was formerly of Page County, Va., but made his home for a time at University, Va.

Dr. E. Lee Shiflett, of the class of '30, University of Virginia, now of Elkton, Va., and Miss Ruth Bryant McDonald, Goshen, Va., October 25th.

Dr. Louis Wachtel, Sunnyside, Long Island, and Miss Sarah Dolly Kohn, New York, N. Y., November 11th. Dr. Wachtel graduated from the Medical College of Virginia in 1926. **News From University of Virginia, Department of Medicine.**

The following members of the Medical Staff were represented on the program of the meeting of the State Society in Norfolk on October 21st to 23rd: Dean J. C. Flippin (Clinic on the Bedside Recognition of Cardiac Arrhythmias); W. H. Goodwin (Primary Carcinoma of the Small Intestine); D. C. Smith (Cutaneous Manifestations of Syphilis); Edwin Wood (The Significance of Blood Pressure Changes in Hypertension); D. C. Wilson (The Care and Prognosis of Extramural Epileptics); and S. D. Blackford (Differential Diagnosis of Tularemia). Contributions were made to the Scientific Exhibits by Dr. Vincent W. Archer and Dr. Charles H. Peterson (The Roentgen Diagnosis of Intestinal Ascariasis), and by Dr. Charles Bruce Morton (Specimens from the Medical Museum of the University of Virginia).

The Optical Society of America held its fifteenth annual meeting at the University from October 30th to November 1st. On Thursday night, October 30th, Dr. Herbert E. Ives, of the Bell Telephone Laboratories, gave a public lecture on Relief Pictures and Projection on Relief. On Friday, Professor Arthur Compton, of the University of Chicago, spoke on the Optics of X-rays. The papers on Saturday included one on Ultra-violet Radiation from the Sunlight Lamp, by A. H. Taylor, of the Lighting Research Laboratory, Nela Park.

Dr. I. R. Wagner, Medical Officer in Charge of the U. S. Veteran's Hospital at Fort Lyon, Colo., visited the Medical School on October 29th.

Dr. Lawrence T. Royster, Professor of Pediatrics, addressed the Waynesboro Parent-Teachers' Association on October 27th, on the subject of "Child Welfare." On November 18th, he attended a conference of State Health Officers in Richmond, called by Dr. Emmion G. Williams. As delegate to the White House Conference on Child Health and Protection, he attended meetings called in Washington from November 19th to 22nd.

On November 5th, the Sir Robert Jones Orthopedic Club held a clinic day at the University, as part of their fall meeting which continued in Richmond through November 8th.

Dr. D. C. Smith was appointed a delegate to attend the White House Conference on Child Health and Protection on November 19th to 22nd.

Dr. John Staige Davis, Associate Professor of Clinical Surgery at the Johns Hopkins University, visited the Medical School on October 27th.

Dr. Kenneth Maxcy, Professor of Public Health and Hygiene, read a paper on "The Role of Quinine in the Cure of Malaria" at the Tercentenary Celebration of the discovery of cinchona, held at the St. Louis Botanical Gardens during the week of November 5th.

Dr. E. V. Cowdry, Chairman of the Division of Medical Sciences of the National Research Council, and Dr. William Charles White, Chairman of the Committee on Drug Addiction, visited the Medical School on November 11th.

Dr. W. F. Goebel, Research Associate at the Rockefeller Institute for Medical Research, spent October 30th at our Medical School.

Dr. Alfred Chanutin spent October 18th at Yale University, in conference concerning research, with Dr. Lafayette Mendel.

At the meeting of the University of Virginia Medical Society on November 10th, Dr. W. H. Goodwin gave a paper on "Primary Carcinoma of the Small Intestine" and Dr. R. B. Bean spoke on "The Growth of Old Virginia Children Compared with That of Children in Other Parts of the World."

Dr. W. T. Sanger, President of the Medical College of Virginia, visited our Medical School on November 11th.

H. E. JORDAN.

Summary of Records of Sixty-five Cases of Recoveries From Leprosy.

A report recently issued by the Public Health Service gives an interesting summary of the value of medical treatment for leprosy at the National Leprosarium which is conducted by the Public Health Service at Carville, La. More than 300 lepers, men, women, and children, are under treatment there.

During the past ten years, sixty-five lepers have been discharged from this hospital as apparently recovered from leprosy and no longer a menace to the public health. The average period of hospital care varied from five to nine years. The shortest period of treatment was one and one-half years and the longest was seventeen years. Fifty-five of these patients received crude chaulmoogra oil by mouth, and sixteen of this group received no other medicine. Twelve received benzocaine-chaulmoogra oil by intra-muscular injection, and four of these received no other medical treatment. Twenty-one received the ethyl esters of chaulmoogra oil by intra-muscular injection, and eight of these received no other medicine.

The basic treatment of leprosy is similar to that for tuberculosis, and all lepers at the National Leprosarium, no matter what medicines are given, follow a sanatorium regimen of food, fresh air and rest, almost identical with that prevailing in a tuberculosis hospital.

Doctors as Kiwanis Officers.

The Kiwanis Club of Winchester, Va., has elected Dr. Robert C. McGlass as president for the ensuing year. Dr. George G. Snarr was elected vice-president, and Dr. H. I. Pifer a member of the board of directors.

Dr. A. R. Lutz,

Of the class of '27, Medical College of Virginia, recently connected with the staff of Welch Hospital No. 1, Welch, W. Va., has secured a fellowship in orthopedic surgery at the Willis C. Campbell Clinic, Memphis, Tenn., and entered upon his duties there on December 1st.

Medical College of Virginia News.

Work on the St. Philip Hospital nurses' dormitory and educational unit has begun. The new building will occupy a site on Mar-

shall Street just opposite the St. Philip Hospital. The new unit will be five stories and basement and will accommodate about a hundred student nurses and members of the graduate nursing staff. Provision will also be made for recreational and educational facilities. Funds granted the Medical College of Virginia by the General Education Board of New York City and the Julius Rosenwald Fund of Chicago have made possible the erection of this building.

Dr. W. Lowndes Peple, professor of clinical surgery at the Medical College of Virginia, gave a talk on Armistice Day to the student body on "Life in an Evacuation Hospital." Dr. Peple's most interesting address was illustrated by lantern slides of actual scenes.

October was a record month in the out-patient department of the Medical College of Virginia, reports showing 3,792 visits by patients, the largest number for any October and the second largest number in the history of the out-patient department for any month. March, 1930, showed the largest volume of service for any one month, a total of 4,158 visits being made.

Founder's day of the ninety-third session of the Medical College of Virginia was observed on Monday, December 1st, beginning at 12:00 noon, at Monumental Church. Dr. William John Gies, professor of biological chemistry, College of Physicians and Surgeons, New York City, spoke on "Progress in Health Service."

Dates For A. M. A. Meeting.

June 8th to 12th, inclusive, have been selected for the 1931 meeting time of the American Medical Association. As this is to be in Philadelphia, we hope that Virginia will be well represented on this occasion.

The Southern Medical Association

Held a splendid meeting in Louisville, Ky., the middle of November, under the presidency of Dr. Hugh S. Cumming, Surgeon General of the U. S. Public Service, Washington, D. C. The attendance was well over the two thousand mark, there being about seventy registered from Virginia. A number of the members availed themselves of the opportunity to go on the motorcade for McDowell Day, the day following the meeting. New Orleans, La.,

was selected as the 1931 place of meeting and the following officers were elected: President, Dr. Felix J. Underwood, Jackson, Miss.; vice-presidents, Dr. W. Hamilton Long, Louisville, Ky., and Dr. W. G. Harrison, Birmingham, Ala. There was no election of secretary-manager and of editor of the *Journal of the Southern Medical Association*, Mr. C. P. Loran and Dr. M. Y. Dabney, both of Birmingham, holding over in these offices.

Are We Over Organized?

According to the *American Medical Association Bulletin* for October, a recent report from a committee of the Cleveland, Ohio, Academy of Medicine showed that about 1,100 medical meetings, or an average of more than three a day, were being held in Cleveland each year. Similar conditions are known to exist in many cities.

This matter was recently brought to our attention in regard to meetings in Richmond, owing to the number of meetings of staffs at the various hospitals, meetings of special societies, the local component society, etc. Will not this multiplicity of meetings work for a smaller attendance on our State meetings and the component units, which do not exact penalties for non-attendance? There is also the fear that doctors will not only be "fed up" on meetings, but might even overtax themselves to the point of not relaxing sufficiently. Perhaps some arrangement might be made for combining some of the meetings.

Turkish Society of Mental Hygiene.

The Society of Mental Hygiene of Turkey was recently established, with headquarters at Stamboul. In common with other national societies devoted to the development of mental well-being, the Turkish Society recognizes the paramount importance of advancing measures to foster the mental development and health of childhood and youth. Besides specialists in psychology and in mental and nervous diseases, the membership will include sociologists, educators, and school and prison physicians. The establishment of working relations with mental-hygiene societies in other countries is a definite part of the program.

Abbott Laboratories and Swan-Myers Company Join Forces.

In order to enlarge the strong research facilities and personnel of both companies, to expand the sales organizations and increase the distribution of their ethical pharmaceutical

products, the Abbott Laboratories of North Chicago, Ill., and the Swan-Myers Company, of Indianapolis, Ind., have agreed to combine their resources and consolidate their management. This combination brings into one enlarged organization two groups of people actuated by the same high standards in ethics, scientific research and controlled manufacture.

The laboratories of the Swan-Myers Company will continue in Indianapolis until further notice.

Compulsory Primary Education for Boys, Calcutta.

Subject to sanction by the Government, compulsory free primary education for boys between six and ten years of age will soon be introduced in one of the municipal wards of Calcutta. The decision is the outcome of a recommendation of the primary-education committee of the Calcutta Corporation. If the plan proves successful it will be extended to other wards. Girls have not been included in the scheme because of native opposition to compulsory schooling for them, especially among the Mohammedans.

Government Hospitals in Need of Medical Officers, Nurses, and Social Workers.

The U. S. Civil Service Commission states that Government hospitals throughout the country, including those under the Veterans' Bureau, the Public Health Service, the Indian Service, and other branches, are in need of medical officers and nurses of various grades, and that Veterans' Bureau hospitals have vacancies in positions of psychiatric social worker and junior social worker.

Full information regarding examinations, salaries, etc., may be obtained from the U. S. Civil Service Commission, Washington, D. C., or from the Secretary of the U. S. Civil Service Board of Examiners at the post office or customhouse in any city.

Dr. Ramon D. Garcin, Jr.,

Son of Dr. and Mrs. R. D. Garcin, Richmond, Va., and a member of the class of '29, Medical College of Virginia, after a year's internship at King's County Hospital, Brooklyn, N. Y., has received an appointment in the department of Internal Medicine at Cumberland Street Hospital, that city.

Dr. Guy Hinsdale,

Medical director of the Greenbrier, White Sulphur Springs, W. Va., on November 19th, sailed with his family for a three months' trip

to France and England, where he will make a special study of the French spas and of the hospitals in Paris and London.

The Greenbrier Hotel is being doubled in size and will be reopened March 1st.

The National Committee for Mental Hygiene

Announces the availability of Fellowships for training in extramural psychiatry to properly qualified candidates. These fellowships are designed to provide special training for physicians who have had previous hospital training in psychiatry but who wish to prepare themselves for extramural work in the fields of child guidance, delinquency, education, dependency and industry. The purpose of these fellowships is to assist in lessening some of the shortage of properly trained psychiatrists. Applicants should be under thirty-five years of age and graduates of Class A medical schools.

Further information may be obtained from Dr. Frankwood E. Williams, Medical Director, National Committee for Mental Hygiene, 370 Seventh Avenue, New York.

Dr. C. C. Cooley,

University of Virginia, Department of Medicine, class of '29, after a short time at Catlett, Va., is now with the U. S. Public Health Service and is stationed at the Marine Hospital, Norfolk, Va.

Conference Discusses Health of Negroes.

On call of the Surgeon General of the U. S. Public Health Service, a conference of health and welfare workers was held in Washington on October 29, 1930, to consider ways and means of controlling the high mortality of colored people in rural communities and congested cities. The meeting, which was well attended, was called to order by Dr. Taliaferro Clark, Acting Surgeon General, in the absence of Surgeon General Cumming, and was presided over by Assistant Surgeon General R. C. Williams.

Dr. Robert R. Moton, principal of Tuskegee Institute, and Dr. Monroe N. Work, Director of the department of records and research of the Institute, advised the conference that the National Negro Health Week, founded by the late Booker T. Washington, had done much good in teaching the Negroes habits of better living, but now needed substantial aid in achieving its greatest usefulness as an agency for the general health welfare of all Americans.

An executive committee to consider the year-round health movement was named by the conference and immediate plans were made for observance of the next National Negro Health Week, which includes the birth date of Booker Washington, April 5th.

Dr. H. Wallace Blanton

Has just been re-elected president of the Richmond (Va.) Chapter of the Hampden-Sidney Alumni Association, for another year.

The Cinema and Eyesight.

Not quite one-third of the 11,000 Italian children who replied to a questionnaire sent out by the International Education Cinematographic Institute reported that their eyes became tired after watching motion pictures. The oculists and physicians from whom information was requested suggested as the result of their observations that the films and projection apparatus should be in good condition and the speed regulated to prevent jerky pictures, that captions should be few, large, and clearly legible, and that the pictures should not last too long.

Dr. Rees Morgan,

Recently assistant professor of obstetrics and gynecology at the University of Virginia, has opened offices at 909 Medical Arts Building, Roanoke, Va.

Dr. D. Hunter Marrow,

Boydton, Va., left about the middle of November for Florida, where he will spend the winter, as is his custom, at Daytona Beach.

Education for Children of Migratory Workers.

During the school year 1929-30 five counties of California whose special classes and schools for the children of migratory workers were studied by the division of special education of the California State Department of Education, provided schooling for 16,848 such children. The need for special education of this character is indicated by the school census for 1927—the latest year for which the information is available—according to which nearly 37,000 children of migrant workers in the State reported that they and their parents had no permanent place of residence.

Dr. M. H. Watson,

After some time spent at the New York Post-Graduate Medical School and Hospital, New York City, has returned to Virginia and is associated with Dr. Luther A. Robertson, in Dan-

ville, Va. He limits his work to diseases of the eye, ear, nose and throat.

Don't Forget Your T. B. Seals.

The Christmas season would not seem complete without the brightly colored health seals. Funds from the sale of the penny seals furnish practically the sole support of the 1,400 affiliated tuberculosis associations in the United States and are used to educate people in the ways of healthful living. The money is devoted to an all year round campaign to prevent sickness, with special emphasis on keeping children well.

Accumulated pennies can accomplish much and since 1907 when the seals were first sold to control and stamp out tuberculosis, the death rate from this disease has been decreased from 178.5 per 100,000 population to 79.2 per 100,000 population in 1928. Children have profited most from the knowledge gained through this educational campaign. For the ten-year period, 1917 to 1927, the tuberculosis death rate for the country as a whole declined 45 per cent while the rate for children under five declined 63 per cent.

The age period in which the death rate has declined less noticeably is from 15 to 45, the producing years. But by concentrating effort on the child through providing open air classrooms, preventoria, health camps for the under par children and by teaching them to make health a habit, the amount of adult tuberculosis is greatly reduced.

Santa Claus, the symbol of unselfish joyousness, is a fitting subject for the 1930 Christmas seal. Use the stickers on your mail and packages, not only to make them, but also to signify that at this season you feel like joining Santa Claus in giving the precious gift of health.

Dr. B. B. Bagby,

Full-time Health Officer for Southampton County, Va., has accepted the position of Director of the Bureau of Child Health of the State Department of Health, and will begin his official duties on or about December 15, 1930. His past experience, especially in Child Welfare Work, makes him particularly well fitted to head this Bureau.

Dr. Bagby was formerly Medical Health Officer for the city of Richmond, Va., from which he resigned to accept the position as health officer of a five-year child health demonstration in Clarke County and Athens, Ga., fostered by the Commonwealth Fund of New York City. Upon completion of this work, he

decided to return to his native state and was then put in charge of the Southampton work.

Virginia Among States With Mental Hygiene Departments.

According to the *Mental Hygiene Bulletin* for November, 1930, there are two distinct kinds of State Mental Hygiene organizations. The first may be designated State Departments, Divisions or Bureaus, and are integral parts of the State governments supported by State funds. The second group is composed of the State Mental Hygiene Societies which are privately controlled and supported.

There are State Departments, Divisions or Bureaus of Mental Hygiene, in seven States: Connecticut, Maryland, Massachusetts, New York, North Carolina, Pennsylvania, and Virginia.

Nineteen States, including the District of Columbia, have State Mental Hygiene Societies: Alabama, Colorado, Connecticut, District of Columbia, Illinois, Indiana, Kansas, Louisiana, Maryland, Massachusetts, Missouri, New York, Ohio, Pennsylvania, Rhode Island, South Carolina, South Dakota, Utah, and Washington.

Are Your Own Children Really Well?

Approximately three-fifths of nearly 1,500 children born in the United States of well-to-do parents and living under excellent conditions of sunlight, air, and play space, were diagnosed by physicians at the well-children's stations of the Children's Bureau of Kansas City as having physical defects in need of treatment, according to the *Journal of Home Economics*. In addition, more than one-fifth were underweight.

Meningococcus Meningitis in the United States.

At a recent conference of State and Territorial Health Officers with the Public Health Service, it was pointed out by representatives of the Service that reports received from State Health Officers for the past five years indicate that there has been in the past few years a progressive increase in the number of cases of meningococcus meningitis recorded, from 1,859 in 1925 to 9,660 in 1929. The actual number of cases are not large when compared with the total population, but it is significant, however, that each year there has been an increase over the preceding year, and that this rise has been continuing for five years.

The U. S. Civil Service Commission,

Washington, D. C. announces open competitive examinations for medical officer, associate medical officer and assistant medical officer, applications to be rated as received by the Commission, until December 30, 1930. Applications for the position of Associate pharmacologist must be on file with the Commission not later than December 10th.

Folk-Lore, Not Fact.

The widespread belief that accidents and frights happening to the mother can "mark" an unborn child is based upon folk-lore rather than on fact, declares Dr. Thomas D. Wood in the *Parents' Magazine* for September. There is nothing in such prenatal influences, according to modern scientific knowledge.

"Medicine in Virginia in the Seventeenth Century."

As the Medical Society of Virginia, through its Committee on the History of Medicine in Virginia is sponsoring this book, we are much gratified at the following notice which appeared in the November issue of the *American Journal of Medical Sciences*:

Of the various regional medical histories that have recently been appearing, none is worthier or more appropriate than the present volume under review. And in how many states would it be desirable or even possible to devote a large volume, as this one is, to the seventeenth century! The Medical Society of Virginia and its Historical Committee, under whose auspices the work was produced, may well be congratulated on the important contribution that has been made to American medical history. May the other two volumes that are contemplated maintain the excellence of subject matter and format and may they soon be forthcoming!

E. K.

Dr. Walter J. Otis,

An alumnus of the Medical College of Virginia, was among those presenting papers at the Louisville meeting of the Southern Medical Association, in the Section on Neuro-Psychiatry. The paper, which was well received, was on "Chronic Encephalitis and Stramonium Medication." Dr. Otis, who makes his home in New Orleans, La., has for some years been assistant professor in Neurology at Tulane University Graduate School of Medicine.

Iowa Takes Count of its Handicapped Children.

Iowa is taking count of all its crippled and mentally defective children, of those with heart and lung ailments, and of those who are deaf, hard of hearing, or have speech defects. The object of this census is to discover all children who are so disabled physically or mentally that they cannot profitably attend the regular classes of the public schools. Four typical counties in different parts of the State will be given special study by public health nurses and physicians.

Dr. C. H. Farmer,

Native of Georgia and a graduate of Emory University, has accepted the position of Assistant Medical Director for the Southside Health District, with headquarters at Farmville, Va. Dr. Farmer has been active in State health work for several years and has also had considerable experience and practice in pediatrics. He will assist Dr. W. A. Brumfield in his generalized program with special emphasis upon the conduct of his regular Child Welfare conference.

The National Committee for Mental Hygiene,

At its twenty-first annual meeting in New York in November, re-elected the following officers for the ensuing year: Honorary President, Dr. William H. Welch; President, Dr. Charles P. Emerson; Treasurer, Mr. Frederic W. Allen; and Secretary, Mr. Clifford W. Beers, 370 Seventh Avenue, New York City.

The Southern Surgical Association

Is to hold its annual meeting in Lexington, Ky., December 9th, 10th, and 11th, at the Lafayette Hotel. Dr. James M. Mason, Birmingham, Ala., is president, and Dr. Robert L. Payne, Norfolk, Va., secretary. Dr. Charles A. Vance, Lexington, Ky., is chairman of the committee of arrangements. The program includes forty papers in addition to the address by the President. Virginians on the program are Drs. Carrington Williams and G. Paul LaRoque, of Richmond, and Dr. Hugh H. Trout, of Roanoke.

A Traveling Playground Staff.

Knoxville, Tenn., does not own enough playground sites for its children, so its bureau of recreation has evolved the plan of sending a traveling staff of workers to conduct playground activities two days a week on vacant

lots loaned for the purpose by the owners. The workers carry their equipment with them.

Dr. Carrington Williams,

Richmond, Va., has just been elected one of the new directors of the Country Club of Virginia, this city.

Modern Dental Clinics.

As "Friends of the Mountain Children" the Golden Rule Foundation of New York has started modern dental clinics in certain mountain districts of Virginia, Kentucky, Tennessee, Alabama, and Missouri—one in each State. These clinics have been established in school or community centers where there was no dentist, and the mountain families are too poor to pay for a dentist's services. For Virginia a traveling clinic is planned which will serve a group of mission centers.

P. A. Surgeon R. A. Vonderlehr,

Of the U. S. Public Health Service, formerly of Richmond, Va., recently with the Service at Hamburg, Germany, has been relieved from duty at Ellis Island, N. Y., and assigned to duty at the National Institute of Health, Washington, D. C.

Mental Hygiene and the National Government.

Congress has recently authorized the establishment of a division of mental hygiene in the United States Public Health Service, to give medical and psychiatric service to penal and correctional institutions of the Federal Government, to conduct investigations as to the prevalence and causes of mental and nervous diseases, and to study means for their prevention and treatment.

Dr. William M. Dick,

Recently at the Elizabeth Buxton Hospital, Newport News, Va., after a service in ear, nose and throat at Bellevue Hospital, New York City, is now associated with Dr. R. T. Atkins, at 4 West 53rd Street, New York, in the practice of these specialties.

Probation Extended in Federal Courts.

The crowding of Federal prisons by young first offenders has created an emergency which the Department of Justice is meeting by a considerable extension of the probation system in the Federal district courts. An increase from 25,000 to \$200,000 in the appropriation for the salaries and expenses of Federal probation officers has made possible services for the forty-six districts in thirty-one States and the appointment of a probation supervisor in

the Department of Justice to carry out the duty of supervising and promoting Federal probation, recently imposed upon the department by Congress. The control of appointments of probation officers has been transferred from the Civil Service Commission to the judges of the Federal districts.

How Important is Heart Disease Among School Children?

In New York City more deaths occur among school girls from heart disease than from any other cause; among school boys it is the second most important cause of death, accidents coming first.

Saving Quebec Children Exposed to Tuberculosis.

Thirty children from Montreal homes infected by tuberculosis have been sent at the expense of the bureau of health of the Province of Quebec to approved homes about forty-five miles from the city in the Laurentian mountains. The results of this experiment have been so encouraging that the provincial legislature has provided funds for the continuance of the work under a "child family-placement service," controlled by the provincial bureau of health. The scheme is an adaptation of the Grancher plan, which has been followed in France for twenty-seven years, where carefully compiled statistics have shown that the death rate from tuberculosis among the children so cared for has been less than 1 per cent.

Vacations in Denmark for Deaf and Dumb Children.

Progressive little Denmark last summer converted an old fortification on the seashore into a vacation home for deaf and dumb children. The funds for the maintenance of this "pleasure resort" were contributed by the social department of the Danish Government, the city of Copenhagen, and certain interested institutions and agencies. Denmark is one of the countries which has developed a series of hostels to accommodate groups of children who take walking tours through the country in summer.

Punch and Judy as Doctors of Public Health.

The Minnesota Public Health Association has found a novel and attractive way of educating the public in health matters by presenting the subject in the form of a Punch and Judy show at the county fairs. The puppets are real English puppets, imported from London, and the health play follows the familiar

style of the old laughter-provoking puppet performances.

Fine Opening For Physician

At Toms Brook, Va., in the Shenandoah Valley. For further information, address "The Mayor," Toms Brook, Va. (*Adv.*)

Obituary Record

Dr. Charles Frederick Rinker,

Prominent Fauquier County physician, of Upperville, Va., died on November 11th, following an illness of pneumonia, which lasted only three days. He had attended the meeting of the Medical Society of Virginia in Norfolk, the latter part of October and appeared in excellent health. At this time, he was appointed a member of the Membership Committee of the Society. Dr. Rinker was seventy-one years of age and had graduated from Bellevue Hospital Medical College, New York, in 1883. He was the father of Dr. F. C. Rinker, of Norfolk.

Dr. James Maxwell Caskie,

Remington, Va., another prominent Fauquier County physician of the "old school," died November 4th. His death followed an illness of several weeks' suffering from internal injuries received in an automobile accident. He is survived by his wife and four children and a large family connection. Dr. Caskie was born in Richmond, Va., in 1860, and received his medical education at the College of Physicians and Surgeons, Baltimore, from which he graduated in 1880. He had been a member of the Medical Society of Virginia for the past twenty-five years.

Dr. John Franklin McClellan.

On the 19th day of September, 1930, Dr. John Franklin McClellan, of Kenbridge, Va., a member of the Lunenburg County Medical Society, died in one of the Richmond hospitals, after a lingering illness of several months.

Dr. McClellan was born in Calhoun County, Fla., on the 3rd day of September, 1885. He graduated in 1913 from the Atlanta College of Physicians and Surgeons, at Atlanta, Ga. After graduating he located at Ball Ground, Ga., for a few years. After leaving Ball Ground, he spent the following year at the New York Polyclinic, where he did post-graduate work. On his return from New York he practiced a short time at Gary and Eckman, W. Va. In 1920 he located at Kenbridge, Va., where he was associated with Dr. T. C. Harris a few years. At the time of his death he had a large and lucrative practice.

On February 15, 1919, he married Miss Edith White, of Tazewell, Va. They had three children, all boys.

He was a member of the Lunenburg County Medical Society, Southside Virginia Medical Society,

Medical Society of Virginia, and American Medical Association.

His remains were taken to his old home in Blountstown, Fla. Dr. McClellan's whole time and thought were given to his profession and family. He was a conscientious and outstanding physician. The community, the profession, and his family suffer a loss in his death.

BE IT RESOLVED, therefore, that the Lunenburg County Medical Society hereby express its profound sorrow at the loss sustained by the medical profession of this County and State through the death of Dr. McClellan, and offers its sincerest sympathy to the bereaved family.

BE IT FURTHER RESOLVED, That this resolution be spread upon the minutes of the Lunenburg County Medical Society, and a copy be sent to the bereaved family, and that a copy be published in the VIRGINIA MEDICAL MONTHLY.

E. L. KENDIG,
H. E. WHALEY,
W. D. KENDIG,
Committee.

Dr. Davis L. Shaver

Died suddenly at his home in Maurertown, Va., on November 17th, of leakage of the heart. He was born near Maurertown in 1861 and graduated from the Baltimore Medical College in the class of '88. Dr. Shaver was located in West Virginia for a few years before returning to Shenandoah County to practice. He was a prominent church worker and was much beloved and honored by the people of his section. Dr. Shaver had been a member of the Medical Society of Virginia for forty years. He is survived by two sons.

Dr. Samuel Sterling Northington,

For many years a practicing physician of Mecklenburg County, Va., died at his home in South Hill, Va., October 27th. He was born in Mecklenburg County, Va., 70 years ago and was graduated in medicine from Jefferson Medical College, Philadelphia, in 1881. He retired from active practice about seven years ago on account of failing health. Dr. Northington had been a member of the Medical Society of Virginia for a number of years. His wife survives him.

Dr. Jefferson Taylor Hartley,

Formerly of Liverpool, W. Va., died at the home of his son, Dr. George S. Hartley, in Clifton Forge, Va., November the 11th, at the age of seventy-nine years. He retired from active practice several years ago and had since made his home in Clifton Forge. Dr. Hartley was graduated in medicine from Miami Medical College, Cincinnati, in 1882, and shortly thereafter located at Liverpool, W. Va.

Dr. William E. Lawson, Jr.,

Albany, N. Y., died November 15th. He

was forty-four years of age and graduated from the University College of Medicine in 1911. Dr. Lawson was for a time located at Catawba Sanatorium, Va., and was a member of the Medical Society of Virginia for several years. He is survived by his wife and two daughters.

Dr. Philip Henry Killey,

Vivian, W. Va., died September 1, 1930, following an illness of several months. He was eighty-one years of age and a graduate of the Medical College of Virginia in 1872. Dr. Killey is survived by seven children.

Dr. Preston M. Hickey,

Professor of roentgenology at the University of Michigan, Detroit, died October 30th, of heart disease. He was sixty-five years of age and graduated from the University of Michigan and Detroit College of Medicine and Surgery. During the World War, Dr. Hickey was one of the chief consultants with the A. E. F., being attached to Dr. Angus MacLean's base hospital at Dijon, France. His wife and two children survive him.

Dr. Isaac H. Trimble,

Staunton, Va., died November 21st, following a stroke of paralysis. He was eighty-one years of age and graduated from the Bellevue Hospital Medical College, New York, in 1875. Dr. Trimble was a native of Monterey, Highland County, Va. His wife and one daughter survive him.

Dr. Luther W. Bell,

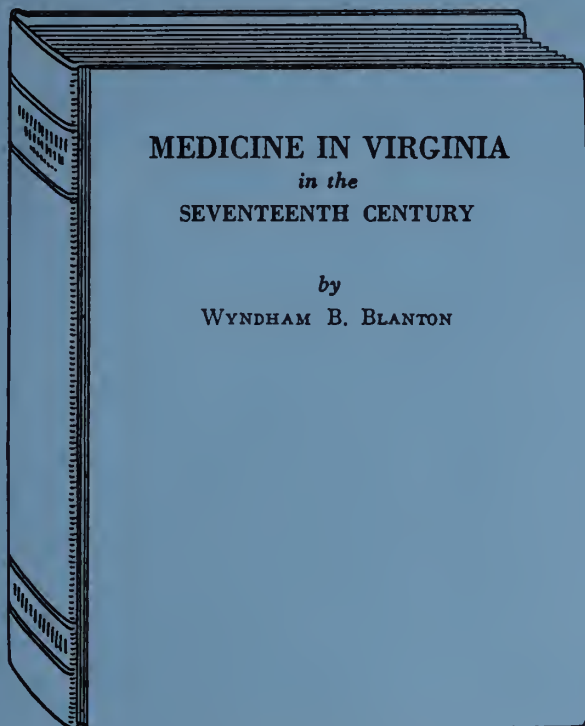
Schoolfield, Va., died September 21, 1930, of cholelithiasis, at the age of forty-eight. He graduated from the Memphis (Tenn.) Hospital Medical College in 1909.

Dr. Cyrus Thompson,

Jacksonville, N. C., prominent physician and statesman of North Carolina, died at his home in that place on November 20th. His wife and eight children survive him. Dr. Thompson was seventy-five years of age and a graduate in medicine from the University of Louisiana in 1878. He was a member of the North Carolina State Board of Health and had been honored by a number of medical organizations in which he held membership.

Colonel Blair Dabney Taylor,

Of the U. S. Army Medical Corps, retired, died October 29th in Atlanta, Ga. He was a native of Fredericksburg, Va., and was eighty-two years of age. Dr. Taylor graduated in medicine from the University of Virginia in 1869. One daughter survives him.



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THIS IS A BOOK of sound scholarship, and, in addition to that, it is interesting to read. It adds vastly to our knowledge of medicine in Virginia and also of life in Virginia in the Seventeenth Century.—DR. HENRY R. McILWAINE, *State Librarian*.

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Vol. 57, No. 10.
WHOLE No. 943.

RICHMOND, VA., JANUARY, 1931

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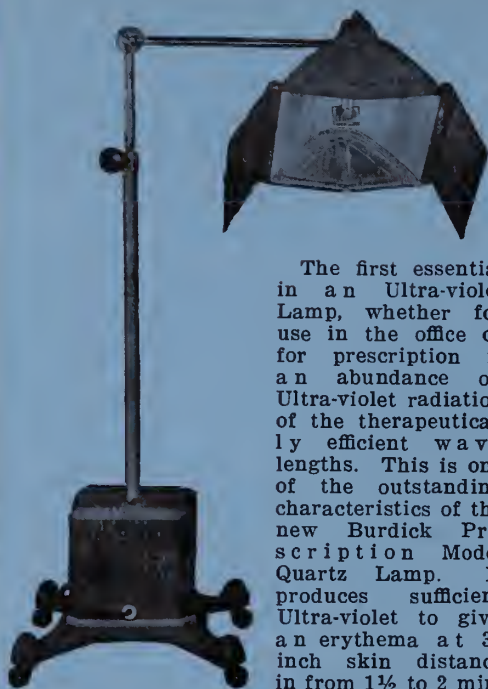
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CANCER EDUCATION.*

By SOUTHGATE LEIGH, M. D., F. A. C. S., Norfolk, Va.
Chairman, District Committee of the American Association for
the Control of Cancer.

Education of the public and profession in regard to cancer reminds one of antiseptics. The story in each is so simple that it is difficult to impress on the minds of the people. It is so simple that they don't believe it.

Antisepsis has revolutionized surgery, which before the days of Lister was a nightmare, especially in hospitals, where septicaemia, pyemia, erysipelas, hospital gangrene and death were rampant. The antiseptic methods which changed all of this horror are so simple that even in this present enlightened age they are often neglected with unfortunate and even disastrous results. The simplicity of the thing makes it hard to impress upon the mind.

And so in a way, it is with cancer. There are many things that we absolutely know about this dreaded disease, and those things are most encouraging but simple.

Cancer is really preventable or curable in almost all cases. If we can persuade the public and the doctors in general to believe that statement we can get somewhere. It is also necessary for one to analyze the statement and use common sense, while doing so.

The entire body is made up of cells which ordinarily multiply at a certain rate of speed. Cancer is in a way a "craziness" of these cells, making them multiply with exceeding rapidity. They seem to go wild—"running amuck," as one writer terms it.

We know that this "crazy" condition is due to irritation of one sort or another continued over a considerable length of time. The vitally important thing to do is to prevent and stop irritation.

The irritants may be tobacco on the lip, a sharp tooth cutting the tongue, the scratching of a mole by the comb, hot foods, gall-stones, kidney stones, raw spots in any part of the body, such as the stomach, intestine, uterus.

*Read by title at the sixty-first annual meeting of the Medical Society of Virginia, in Norfolk, October 21-23, 1930.

If any part of the body shows irritation it should be promptly and radically treated.

Lumps of all kinds should be looked upon with suspicion and especially in a woman's breast. It is always safest to consider the last named as cancerous or precancerous until a microscopic examination of the tissue shows it to be otherwise.

Continued infection of any of the tissues is risky from a cancer standpoint, such as gums, tonsils, nose, ears, bladder, kidneys, etc.

Continued abuse of the digestive organs and continued constipation are risky.

Leucorrhea or profuse menstruation in women should always be considered a sign of danger. Any discharge after the menopause is especially risky.

All of this means that everybody, men, women, and children should be thoroughly examined from time to time, and should know that small apparently inconsequential abnormalities must be looked after.

There are many simple, apparently innocent, conditions that may become cancerous. Doctors and patients should always be on the lookout for such conditions, so as to head off trouble.

The trouble which worries me the most is abnormal conditions in women. Every woman who has had a child has also a tear in the neck of the womb. In a very large proportion of cases, that tear does not heal but continues as a raw surface, an ulcer, causing no pain or discomfort, but producing a white discharge. The simplest treatment will usually cure the ulcer promptly.

Women, young, middle-aged or old, with or without having children may have ulcers or inflamed conditions which may lead to cancer but which, if discovered in time, can be easily cured. Every woman after confinement must be examined and looked after until entirely healed.

As I have urged many times before, two obstacles stand in the way of the discovery of cancer or conditions leading to cancer in

women. One is that the medical schools do not teach gynecology to the students in a practical way, and the other is that the general practitioners as a rule are not prepared to make vaginal examinations in a refined and decent manner.

I would strongly urge that every practitioner take up gynecology, at least to the extent of knowing how to make examinations and do minor work, and that he also arrange his office with a woman attendant so as to make examinations in an unobjectional manner.

I have recently read an article by Dr. William J. Mayo, one of the greatest men of the age, from which I shall quote several paragraphs.

"First, it can be said that cancer never develops in sound tissues, and this knowledge is manifested in the understanding of physicians of the danger of permitting sources of chronic irritation to continue. Second, in the early stages of malignant change surgical removal of the growth, or, in suitable cases, the use of radiotherapy gives a high percentage of cures.

"It is difficult, however, for the laity to appreciate to what extent cure is possible in cancer, and in their very fear of a condition which they believe to be hopeless they often delay surgical consultation. This widespread pessimism exists because when death occurs from cancer, the cause of death cannot be concealed, whereas persons who have been operated on successfully for cancer hide the fact that they have had malignant disease because general knowledge of it would stand in the way of their future advancement. As a consequence the public has known much of the horrors of the disease and little of its curability."

* * * * *

"It is equally probable that when a breach of continuity in the tissues occurs as the result of long-continued chronic irritation, the attempt is made first to heal the defect with normal cells, but in the course of time, as the reparative processes are exhausted, cells less and less mature are thrown into the breach, until finally embryonic cells, but the best that can be supplied, replace the normal epithelium and take on malignant change.

"This brings up an interesting side line of thought, and that is that the age of cells and their condition must play a prominent part in the development of malignant disease. Per-

haps the reason cancer usually appears after middle age is that the cells of the body have lost the reparative power of youth, have a lessened immunity, and thereby have become more vulnerable. Again those organs of the body which have a relatively short heredity are more often involved than organs which we know to be more primitive and which might be said thereby to have gained hereditary resistance to the disease."

* * * * *

"Again, those organs of the body, the breast and the uterus, which undergo early senility, carry with them an increasing risk of cancer, and finally the only reasonable explanation why 90 per cent of persons do not have cancer and why 10 per cent do have cancer is that there is a varying degree of immunity in individuals to the cause or causes of cancer, which leads to the hope that resistance to this disease may be increased as it has been in other diseases of man."

I have told you absolutely nothing that is new in this paper, but the subject is so vitally important a one that we must continue to say these things over and over again until we get to the point that we are continually looking for early cancer and for conditions that may develop into cancer.

In antisepsis we have to be so thoroughly impressed with the necessity for extreme methods in every detail, that any breach of the simple rules of surgical cleanliness either in ourselves or in others, would act as a violent shock to us.

So in cancer education we must have it in mind all of the time, to look for conditions that may cause trouble, urge upon our patients, all of them, to be examined when it may be necessary, and themselves to look for signs of trouble. In this way only will cancer be controlled.

It is pitiful to see splendid lives shortened when they could have been saved. If we could train our patients and train ourselves in cancer prevention the incidence of cancer and the mortality from cancer would drop enormously. Probably 90 per cent of all cancers are either preventable or curable. Let us work to reach that record.

People must also be made to understand that quacks, those "vultures of evil," are doing untold harm in advising against prompt eradication. They must be taught that cancer in the early stage is *local* and may be destroyed,

and that excision and other radical removal of precancerous or early cancerous conditions are harmless.

This is a great work for humanity, my friends, a simple work, but one that will save many valuable lives and untold suffering.

Sarah Leigh Hospital.

VITAMIN B "COMPLEX" IN A CONCENTRATED AQUEOUS LIVER EXTRACT.*

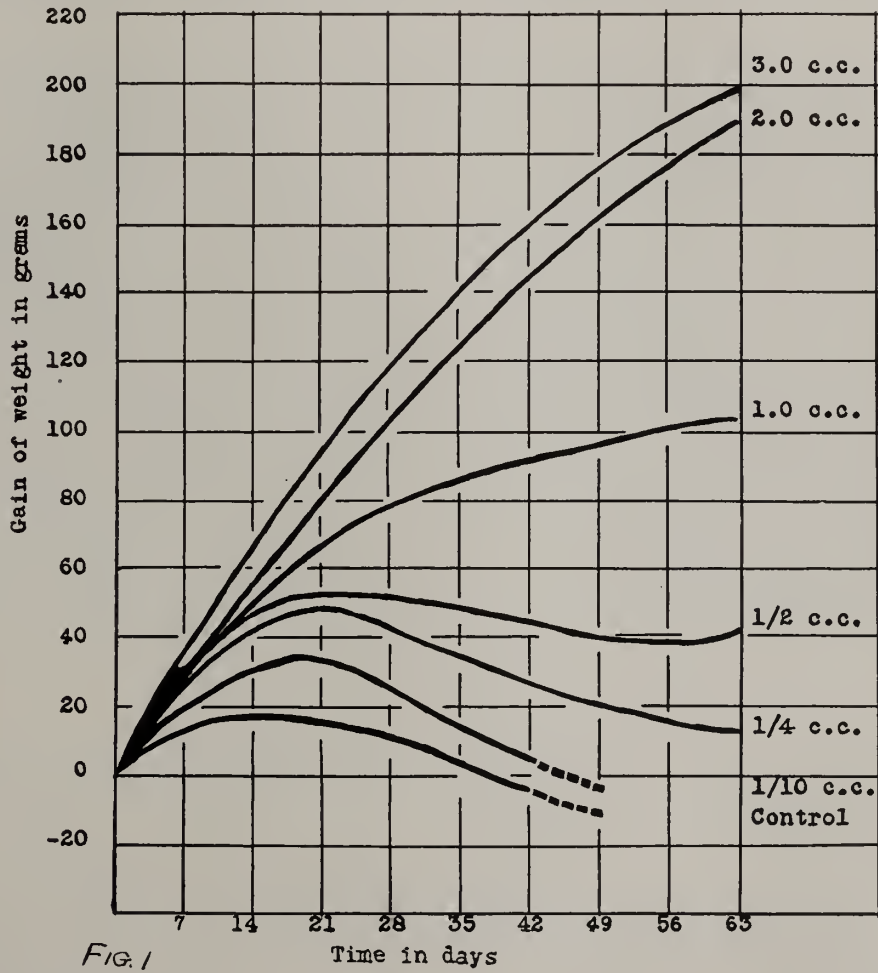
By ALFRED CHANUTIN, PH. D., University, Va.

At the present time there is a great deal of interest in liver and liver products because of their use in pernicious anemia therapy. In addition the presence of vitamins in liver has

includes the anti-neuritic and anti-pellagra factors. There is not enough evidence available, however, to state the relative distribution of these two vitamins.

Recent studies have shown that meat and meat products are rich in vitamin G (anti-pellagra factor). Hoagland and Snider² have shown that beef and pork liver were rich sources of vitamin G. These livers were found to contain five to eight times as much of this vitamin as beef, pork or lamb. Aykroyd and Roscoe³ reported beef liver to be richer in vitamin G than a large number of other food products.

It was thought that an assay of the vitamin B "complex" of a concentrated commercial



been emphasized by a number of workers. In a recent circular published by the U. S. Department of Agriculture,¹ liver is listed as a good source of vitamin B "complex," which

liver extract would be of interest. If this "complex" is present to any considerable extent in the liver extract it may be in part responsible for the favorable reaction obtained in pernicious anemia and other conditions.

*From the Biochemical Laboratory, University of Virginia.

These experiments have been conducted according to the method developed by Sherman and his co-workers.⁴ Young white rats, aged twenty-eight to thirty days, were placed in individual cylindrical metal cages with false bottoms to prevent coprophagy. The young rats were fed a vitamin B and G free diet which was adequate for growth in all other respects. The liver extract was added to the basal diet in measured quantities each day. The basal diet consisted of extracted casein 18, dextrin 68, butter fat 8, cod liver oil 2, and salt mixture 4 (Osborne and Mendel). The animals were weighed twice a week and the food intake was recorded.

The liver extract used was a commercial product* made from the hog liver. In a private communication from the manufacturer it was stated that the liver was ground several times in a mill and then extracted with hot water. This extract was then concentrated in vacuo until a definite specific gravity was obtained. A small quantity of glycerol and sodium chloride was added for preservation of the concentrated extract. It is claimed that one ounce or 30 c.c. of the extract is equivalent to one-half pound of raw liver.

An analysis of several constituents of this extract was made. The specific gravity was found to be 1.23 and the ash content 8.22 per cent. A relatively high iron content of 25.9 mg. per 100 c.c. of extract was obtained.

The results of the experiments are presented

Liver extract fed daily	No. of animals	Aver. initial weight	Aver. gain in weight	Aver. length of experiment	Aver. food intake for individual rat	Incidence of polyneuritis
c. c.		Gm.	Gm.	Days	Gm.	%
0	6	55.1	-11.1	47 ¹	118.8	100
0.1	6	50.3	2.5	45 ¹	156.3	100
0.25	6	43.1	14.0	59 ²	179.0	100
0.5	8	46.8	43.5	62	225.7	0
1.0	7	50.1	108.0	61	328.4	0
2.0	6	53.1	191.0	65	632.5	0
3.0	8	52.7	206.2	57	571.2	0

¹all died.

²2 died.

Table 1.—Showing results of experiments.

*Liver extract E-29 furnished by the Valentine Meat Juice Company, Richmond, Va.

in Figure 1 and Table 1. Animals receiving less than 1/2 c.c. of liver extract daily developed polyneuritis. The minimum daily maintenance dose is about 1/2 c.c. With increasing doses the animals grow rapidly and appear to be in excellent condition. There is comparatively little difference in the growth curve of the animals receiving 2 c.c. and 3 c.c. of liver extract daily.

An accurate comparison of vitamin potency of a liver extract and other food products is not possible. It may be stated, however, that 2 c.c. of liver extract is roughly equivalent in vitamin B "complex" potency to 200 mg. of dried brewers yeast. From comparative figures of Sherman and MacArthur, this liver extract is many times richer than evaporated milk, skimmed milk and tomato juice. The foregoing evidence gives added justification for the use of liver and liver extract in conditions involving certain functional and dietary deficiencies.

SUMMARY

A liver extract tested for its effects on pernicious anemia cases has been assayed for the vitamin B "complex" (anti-neuritic and anti-pellagra factors). It has been found to be relatively rich in this "complex" when contrasted with other foods already studied.

The author wishes to thank Mr. A. K. Turner for his help in this work.

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PROLAPSE OF VESICAL END OF URETER WITH STONE.*

By C. I. SEASE, M. D., Richmond, Va.

Mrs. H. F. D., white, female, married, age fifty-seven. First examined by me May 16, 1930, complaining of frequency of urination. P. H.—Usual childhood diseases. No serious illness. Hemorrhoidectomy three years ago and removal of cyst from the cervix. Menses began at the age of thirteen. Married at twenty; had five children. No miscarriages. Youngest child is now thirteen years of age.

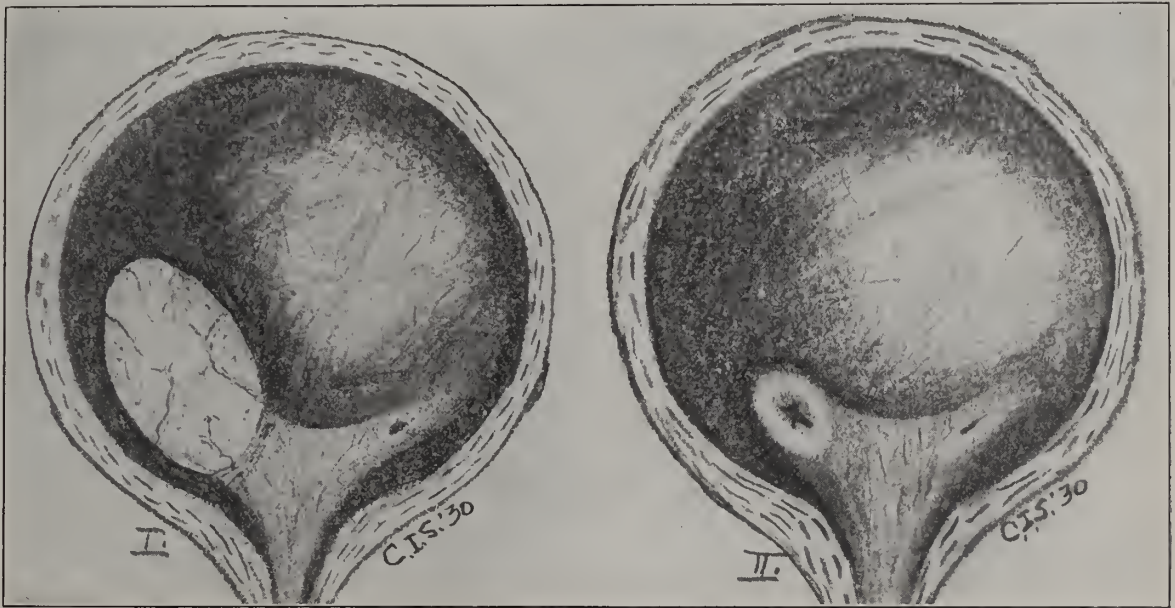
*Read at Staff meeting of Retreat for the Sick, Richmond, Va., October 27, 1930.

Menopause eighteen months ago at age fifty-five. Periods were regular and normal up until that time. She feels certain she has never had kidney colic or any similar attack of pain.

H. P. I.—Patient does not know just when her present illness began, but says she has had frequency of urination off and on for several years. She recalls having had medical treatment for it five years ago with only slight relief. For the past three months her symptoms have been greatly aggravated. She now voids every fifteen to thirty minutes during the day and three or four times during the night. There is no pain, and very little burning, but after voiding she feels that the act has not been completed, and straining only seems to hinder rather than help.

eight ounces of residual urine. The cystoscopic examination revealed a bladder full of trabeculae. The left orifice was pin-point in size. On the right there was a large tumor about 2 ins. long by 1 in. thick. It was fairly smooth, covered with small arterioles and venules, being attached to the right inter-ureteric ridge and filling that side of the bladder. The free part of the tumor could be pushed back with the cystoscope, or to either side. Plate I gives my impression, fairly well, of the appearance of the tumor. The right ureteral orifice could not be seen.

Thinking I was dealing with either a large intra-mural stone, a fibrous tumor, or possibly a ureterocele, I immediately fulgurated the base and anterior surface of the tumor. I



Plates I and II.

Physical Examination shows a white woman about fifty-five, weight 114. Head, neck, chest, abdomen negative. Extremities negative. Blood pressure 175/110. Pulse 80.

Vaginal Examination.—Uterus and appendages normal. Vagina and perineum normal. Bimannally, a hard mass is easily felt, and it seems to be in the bladder, just to the right of the mid-line. Size about 2 ins. by 1 in. Shaped like a pecan. The impression is that it is a stone in the bladder, its position and partial fixation being unexplained.

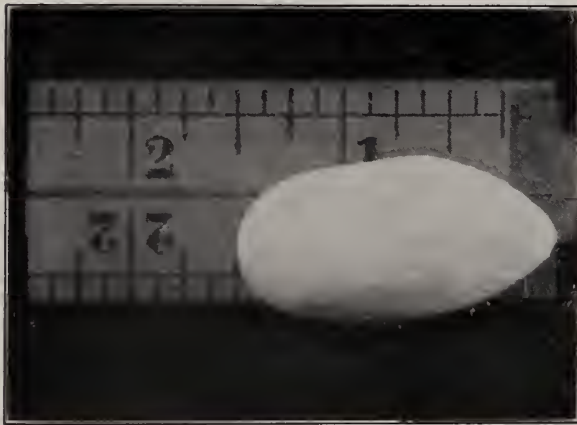
Cystoscopy.—The bladder was catheterized after the patient had voided, and there were

used an insulated copper wire electrode which passed into the tumor without meeting any appreciable resistance. I also fulgurated the left orifice which was pin-point in size and elevated.

May 20th.—The patient has been fairly comfortable since the treatment. At 2:00 A. M. Friday, she had a severe pain in the bladder, accompanied by uncontrollable desire to urinate. Attempt to catheterize revealed a hard object in the urethra, which was finally pushed back into the bladder. At 8:00 A. M., however, the pain recurred. The patient was told to get into a tub of hot water and in a

few moments the stone was passed. The stone is probably calcium phosphate, is smooth, shaped like a pecan, and weighs 188 grains, size $1\frac{1}{2}$ ins. by $\frac{3}{4}$ in. From this time the patient's symptoms of frequency were practically relieved. On May 23rd, June 5th, July 3rd, the redundant flaps were fulgurated.

August 5th.—Appearance as in Plate II.



Photograph of stone.

Both ureters were easily catheterized. Specimens from both sides were normal in quantity and rate of flow, and contained only an occasional cell. Injection of about 12 c.c. of acriflavine 1:5000 into the right ureter produced pain in the right kidney, suggesting that there is no hydronephrosis on that side. The patient has gained in weight. Sleeps well and feels entirely well. Blood pressure reading is now only 145/70 as against 175/110 when first seen.

Investigation by kidney function and pyelogram was declined because the patient's symptoms were so completely relieved after she passed the stone.

This case is interesting because intra-mural calculi of such size are not often seen, and also because of the manner in which the stone probably developed. A small ureteral stone could have come down from the kidney pelvis and lodged in the vesical end of the ureter and there increased to its present size; or this patient could have had a ureterocele in which a stone developed. The patient is sure she has never had any attack of pain even resembling kidney colic, and this point in the history would tend to negative the first supposition, though, of course, a small ureteral stone could pass with little or no symptoms.

On page 120, figure 320, *Urology*, Vol. II. Kelly and Burnam, there is a beautiful illustration of a prolapsed vesicle end of the ureter containing a stone which has an interesting resemblance to the case here reported.

Harnagel, *Journal of Urology*, 1923, Vol. X, pages 141-147, reports a similar case in which the stone was grasped with a cystoscopic ronguer forceps, pulled through the urethra and amputated.

In Kelly and Burnam's *Urology*, Vol. II, page 357, figure 471, there is a beautiful illustration of a prolapsed ureter into the bladder, forming a cyst. In Young's *Urology*, Vol. II, page 46, figure 531 is an illustration of a case of bilateral intra-vesical cyst of the lower end of the ureters, reported by Blumer, and on page 47, cuts C and D, is a case illustrated and reported by Young.

A cyst of the vesical end of the ureter should be a likely place for a calculus to form, and I believe that is what happened in this case.

611 *Medical Arts Building.*

REPORT OF A CASE OF VESICAL CALCULUS IN THE FEMALE.*

By W. CALHOUN STIRLING, M. D., Washington, D. C.

My only reason for reporting this case is the scarcity with which vesical stone is found in females, and, secondly, the almost entire absence of symptoms in the presence of such a large stone. Mrs. B. P., age fifty-three, seen for the first time on September 8, 1930. Patient consulted me regarding frequency of urination together with dysuria. She gave a history of an acute attack of frequency and pain on voiding, beginning about Thanksgiving Day, 1927. The onset was sudden and characterized by inability to void. No other symptoms were noted at that time. These attacks were periodic, lasting for several days, then disappearing for weeks at a time. Lately she has had a marked increase in the diurnal as well as the nocturnal frequency, together with rather marked tenesmus. There has been no blood at any time in the urine. The bladder pain is worse on exertion.

Past History: Patient had a subtotal hysterectomy May 5, 1926, for a fibroid. The operative record was found and no mention was made of any foreign body in the bladder at that time. She had the ordinary diseases of childhood, typhoid fever in 1900, and arthritis

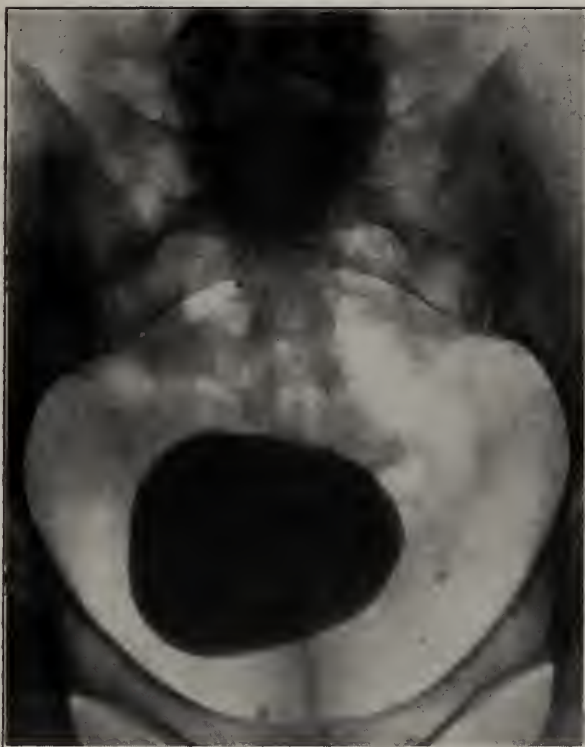
*Read before the Hippocrates-Galen Medical Association, in Washington, D. C., October 9, 1930.

in 1910. No other serious illness. Menstrual history essentially normal; no children. No other serious illness.

Physical examination shows a well-nourished female adult. The blood pressure was 150 systolic and 80 diastolic; pulse rate was 72; temperature and respirations normal. The head and neck were normal, as was the chest. Heart sounds normal throughout and situated

density than the surrounding bone and more than half filled the pelvis.

A cystoscopic examination was done at this time and revealed a very large, grayish stone, situated in the bas-fond. Spicules were seen on the surface of the stone, and it was movable. The bladder mucosa was deeply congested and quite red, and showed evidence of long-standing irritation. The ureteral orifices could not be seen.



Plain roentgenogram of bladder region showing large, oval, dense calculus. This plate shows the value of a preliminary picture in all urological cases.

within normal limits. The abdomen was negative with the exception of a mid-line scar reaching from the symphysis to the umbilicus. Some tenderness was elicited on deep pressure over the suprapubic area. Extremities and reflexes normal. A blood examination revealed eighty-five per cent hemoglobin and 4,520,000 red blood cells. The leucocyte count was normal, as was the blood chemistry. The phthalein test intravenously appeared in three minutes and was within normal limits. A plain roentgenogram was taken of the urinary tract, which revealed a large, dense shadow within the bony pelvis, measuring three and one-half inches long and two and three-fourths inches in diameter. The shadow was of a much greater



Picture of the stone after removal.

On May 10, 1930, a suprapubic lithotomy was done as the stone was considered too large to crush intravesically. The stone was extracted from the bladder with small obstetrical forceps, as it was rather hard to grasp and hold with the ordinary forceps. Convalescence was uneventful aside from a rather marked hemorrhoid protrusion, which delayed the patient's discharge for two weeks.

COMMENT

Keyes points out that stones occur in but two per cent of women, he having operated on seventy men and but one woman; his father, on two hundred fifty men and three women. Stones in the bladder may occur at any age though seen frequently between fifty and seventy years, i. e., in the prostatic age, as fifteen per cent of all prostaties have this complication. Residual urine with stagnation frequently results in the deposit of urinary crystals, followed by stone formation. In the ab-

sence of foreign bodies and local changes in the bladder, most of these stones are renal in origin and migrate to the bladder. These large stones are phosphatic in composition, fairly soft, and cast a rather dense shadow in the X-ray. The largest vesical calculus on record was in a man reported by Randall, in which a stone weighing four pounds was removed. Death occurred the following day. The largest stone removed in which the patient lived was one reported by Mitchell, which weighed thirty-eight ounces. The weight of this stone was one-quarter pound.

To refresh your mind I will briefly summarize the symptoms, diagnosis and treatment. Disturbance of urination, i. e., frequency, interruption of the stream, pain in the head of the penis, incomplete emptying and hematuria on exertion are the signs most commonly seen. The diagnosis is made by a combination of X-ray and cystoscopic examinations. Both should be utilized as some of these stones are dumb-bell in type and may be partially overlooked following either a cystoscopic or a plain X-ray. The writer reported a case of dumb-bell stone located in a bladder and diverticulum which had been partially removed elsewhere, followed by a recurrence of the vesical portion of the calculus.

Treatment: Lithotripsy is a procedure of choice if the stone is of but moderate size and soft. Contraindications to the use of a lithotrite are very large, hard stones, the presence of diverticulum or marked prostatic enlargement, and severe disarrangement of the kidneys. Also, where the stone is partially incorporated in a foreign body introduced into the bladder, lithotripsy is contraindicated. In the presence of the above enumerated complications, suprapubic lithotomy with drainage is the procedure of choice. The mortality is very low and the results excellent.

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Columbia Medical Building.

DIARRHEA OF INFANTS.*

By SAMUEL H. NIXON, M. D., Christiansburg, Va.

The prolongation of the span of human life in the past generation has been a source of pride to the physician and a delight to the laity. This notable accomplishment has been

made possible more through the reduction of infant mortality than through progress in any other phase of medical science. The defenseless infant is beginning to come into its own, because we adults are realizing that eventually it grows into manhood or womanhood, then directs the destinies of our nation. If we are to have healthy adults, we must have healthy babies. In the wake of our new interest has come pre-natal care, child clinics, improved infant hygiene, better environment and special interest in diseases of children. These improved conditions have given us a marked reduction of mortality in diarrhea of infants—the major disease of childhood.

It is during infancy or the first two years of life that diarrhea is most prevalent and most fatal. The reason for this is obvious: it is during this period of life that most stress is placed upon the digestive tract, since it is not developed and can only utilize the simple, easily digestible foods. The caloric requirements of infants are greater than those of adults in proportion to the weight, because metabolism is faster in a more rapidly growing body. Having an undeveloped alimentary tract with an increased digestive burden, we have all the conditions conducive to gastro-intestinal disorders.

Diarrhea is so common in infancy, and plays the major role in the disabilities of childhood, that we are inclined to regard it as a disease entity instead of a symptom. We should think less of diarrhea *per se* and more of the constitutional etiological factors and their effects upon the body as a whole. In addition to our summer diarrheas, we have gastro-intestinal disorders in infectious diseases, as pneumonia, scarlet fever, measles, etc., which require treatment; and unless we look further than the gastro-intestinal disturbance for the underlying cause, we shall not be able to prescribe for our patient intelligently. However, if we examine our little patients, the trouble is usually very evident. We shall not always be so fortunate as to ascertain the etiology of diarrheas very readily. The following group of diseases will serve to impress upon us the importance of regarding diarrhea as only a symptom of a disturbed gastro-intestinal tract, and the necessity of searching until we locate the provocative factor:

1. Amoebic dysentery is no respecter of age or climate. Until quite recently amoeba histolytica was thought to dwell only in tropical

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or semi-tropical regions, but we know now that it is frequently found in temperate zones. Stool examinations, proctoscopic examinations, and X-ray of the colon detect the offender.

2. Tuberculosis of intestines with diarrhea is usually a terminal state of tuberculosis. It is most frequent from the ages of three to eight years. Chief diagnostic points are positive tuberculin test, tuberculosis bacilli in stools, and characteristic X-ray findings of colon.

3. Chronic ulcerative colitis is probably more common than we realized until we began to make proctoscopic examinations in cases of chronic diarrheas. Bargen's diplococcus can be isolated from the stool. X-ray of colon is valuable in diagnosis.

4. Typhoid fever usually begins with more or less gastro-intestinal disturbance. The constitutional symptoms, blood culture and Widal reaction soon reveal the true etiology of the diarrhea.

5. Scurvy very often escapes identification as a cause of diarrhea, chiefly because we do not consider it. A review of the child's deficient diet, purplish hemorrhagic gums, petechia, muscular soreness and gastro-intestinal symptoms make a symptom complex which is characteristic.

6. In intussusception an early diagnosis is imperative. If it masquerades as a simple diarrhea very long, the child loses its life. Characteristic features are sudden onset with severe pain, shock, frequent bloody mucous stools, straining and palpable mass in abdomen.

7. Proctitis may be catarrhal in nature, but it is often due to pin-worms, careless bowel irrigations and irritating rectal suppositories.

The most important and frequent of all diarrheas are those termed summer diarrheas of infants. It is to this class that I shall devote most of my attention. The preventive treatment should command a large part of our interest, for there are few diseases that give such gratifying response.

High atmospheric temperature is the most important etiological factor in summer diarrheas. It is during the hot summer months that infant diarrhea reaps its greatest toll in morbidity and mortality. The deaths from diarrhea are probably more than those from all other diseases of infants combined. The torrid weather of summer is often enough to cause an elevation of temperature above normal in a healthy child, thus reducing its di-

gestive functions and predisposing to digestive disturbances. It is possible for only a small per cent of children to change from excessive heat to a cooler, more equable climate; so our attention must be directed to measures and means to keep the child well in spite of hot weather. This is accomplished through improving the child's environment and general hygiene. The child should be kept in a cool part of the house and out of the hot sunshine. The clothing should be light, bathing and feedings regular, bottles clean and sterile, etc. The water supply should be guarded, as polluted water often contains pathogenic organisms of diarrheas. It has been noted that, with improved water sanitation, there was a reduction of infant mortality from diarrhea. Mothers should be encouraged to nurse their babies, for artificial feeding readily takes second place of importance as an etiological factor in diarrhea of infants. Only about 5 per cent of these patients are breast-fed, so it is evident that contaminated milk is the chief offender. Milk should come only from tested cows and be handled under rigid sanitary conditions, as any filth or prolonged standing of milk rapidly increases bacterial count. Increase of bacteria is the offending agent in milk, and becomes noticeably harmful around one million per cubic centimeter. Of course, pasteurized milk is preferable because it has lower bacterial count. After the first two years children are affected less by bacteria in milk. In addition to milk, other foods are often impure and unfit for consumption. Mothers frequently give babies foods that are too heavy and indigestible, which is a common cause of gastro-intestinal upsets. Neglect of mild gastro-intestinal disorders predisposes to severe diarrhea. Less than 1 per cent of summer diarrheas begin abruptly with alarming symptoms. Mothers should be instructed by the physician at every opportunity regarding the early danger symptoms and measures for their correction.

Summer diarrhea claims our attention on account of its prevalence and high mortality. Although several forms are recognized, they so often merge that a sharp differentiation is impossible. It may be conveniently discussed under the following heads:

1. Acute gastro-intestinal indigestion.
2. Acute ileo-colitis or dysentery.
3. Chronic ileo-colitis.

4. Chronic intestinal indigestion or celiac disease.

5. Cyclic diarrhea.

The first two forms of diarrhea will be discussed together, since the symptoms are similar, and a sharp differentiation is often impossible. In acute gastro-intestinal indigestion the cause is intoxication either from contaminated food introduced into the alimentary tract or from by-products of incomplete digestion or both. Acute ileo-colitis has for its etiological agent the pathogenic organism Flexner's bacillus. Occasionally the infection is the primary cause and occurs in epidemic form, but it usually is secondary to other forms of gastro-intestinal disorders.

The treatment in these types of diarrhea is more or less symptomatic and depends upon the nature and urgency of the symptoms. In the beginning, food should be withheld and only water given. Should vomiting be present and it be decided that the child needs a purgative, and they usually do, calomel is the purgative of choice. Water should be stopped and the stomach given a complete rest until vomiting subsides. The calomel should be followed in six or eight hours by castor oil or milk of magnesia. Where vomiting is not present, castor oil or milk of magnesia is given as the primary purgative. In the beginning of the illness it is advisable to give purgatives unless contra-indicated. The contra-indications are profuse watery stools, retching, vomiting and symptoms of collapse. If these symptoms are present, apply external heat, give strophanthus, brandy and morphine hypodermically. Where there is vomiting without diarrhea, high colonic irrigations are useful. The remedies given orally to control diarrhea are paregoric, Dover's powders, bismuth subnitrate and tannic acid compounds. If bismuth subnitrate does not change the color of the stool dark, sulphur may be added to facilitate the change to sulphid of bismuth, the active form. Great care must be exercised not to reduce the number of stools so low as to prevent adequate drainage of the intestinal canal, for this will increase absorption of toxins with rise of fever and often convulsions. Should convulsions supervene, use hot mustard baths until the seizure is over, then high colonic irrigations. In case the convulsions persistently recur, chloroform inhalations are useful during the attack. The advent of sodium amytal has given us another drug with potentialities to be considered in the most

obstinate cases. In the case of frequent stools of blood streaked mucus with pain and tenesmus, the time-honored remedy of laudanum and starch water as a rectal injection is very useful. Hot turpentine stupes to the abdomen are gratifying when the child has pain and distention.

For the control of high fever, water by mouth is of prime importance; other useful adjuncts are cold packs, alcohol sponges and colonic irrigations. When there is dehydration, with resultant toxemia from incessant vomiting and uncontrollable diarrhea, saline or glucose in saline given by hypodermoclysis or intra-peritoneally will often tide the child through a crisis.

A most difficult part of the management of diarrhea of infants is the selection of foods that the infant can digest and at the same time preserve its nutrition as far as possible. I believe the dietetic regimen requires more judgment and experience than any other phase of the treatment. Osler aptly said, "One man's food may be another man's poison." This axiom is doubly true of healthy infants. Then, small wonder at our perplexities in prescribing for the acutely ill!

After the effects of the initial purgative, cereal water and dilute chicken broth are allowed. When the temperature returns to normal and the acute symptoms subside, there is need for more nourishing food if we are to prevent the state of malnutrition. At the same time we must use the utmost precaution to prevent dietetic relapses. When the baby is breast-fed it should be given cereal water or sugar water before feedings, and the nursing time reduced to one or two minutes. If there is no inconvenience from the milk, the nursing time may be increased.

For the bottle fed, protein milk with cereal water in one-fourth dilution is well tolerated, and may be gradually increased to half milk and half cereal water, and continued for a few days, when cow's milk is substituted. Kerley advocates adding one-half ounce of skimmed milk to cereal water for one feeding on the first day. If this causes no inconvenience, an increase of one-half ounce is made at every second feeding the following day, and an increase of one-half ounce at every feeding the third day. Thereafter, if all goes well, an increase of one-half ounce is made in each feeding every day until the child is taking his daily feedings of skimmed milk one-half strength.

Condensed milk is more easily digested than cow's milk and it may be used when cow's milk disagrees or where sanitary handling of cow's milk is impossible.

We have the powdered milks, which are convenient and sanitary, at our command, and they are a valuable addition to our dietetic armamentarium.

Mellin's food has its rank of admirers and probably its virtues too. There is no lack for a variety of infant foods, but probably the interests of our little patients would be served best by a thorough knowledge of a few, rather than a speaking acquaintance with many.

Chronic ileo-colitis and chronic intestinal indigestion or celiac disease are continuations of the acute forms, and require very much the same regimen. Probably a change to a cooler climate will help these unfortunate children more than any other remedial measure. In celiac disease or chronic intestinal indigestion ripe bananas have been heralded by a few authors as almost a specific dietetic treatment.

Cyclic diarrhea is a periodic diarrhea without apparent cause, and occurs in those children who have recently had severe gastro-intestinal disturbance or who have inherently poor digestion. They have specifically a low digestive tolerance to fats and carbohydrates, and they are improved by reduction of these substances in their foods. I have had occasion to see several children with this complaint who were being fed goat's milk, which is very high in fat content. All of these patients recovered promptly by reducing the percentage of fat in their food.

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DIARRHEA IN INFANTS.*

By R. M. DEHART, M. D., Floyd, Va.

Diarrheal diseases are the most frequent form of disturbance in infancy, with a greater mortality than from all the acute infectious diseases combined. The term diarrhea includes all conditions attended by loose evacuation of the bowel. This results from many causes and is a symptom of many diseases. You may find diarrhea as a prominent symptom in otitis media, pyelitis, appendicitis, typhoid fever, bronchopneumonia, etc.

Only the severe forms of diarrhea are discussed in this paper—the infectious and the noninfectious. The severe forms are commonly known as “summer diarrhea,” “summer com-

plaint,” and “cholera infantum.” The majority of the severe cases occur during the first two years of life.

The etiology of the noninfectious type has not been definitely determined. External heat and high humidity, especially when the infant is too heavily dressed, seem often to be the causative or at least accessory factors. There is a growing impression among many pediatricians that parenteral infections, especially of the ear and naso-pharynx, are primarily responsible. Artificial feeding, improper food mixtures, over-feeding and infected milk also constitute some very important etiological factors.

The infectious form of diarrhea may be caused by both forms of the dysentery bacillus, the gas bacillus of Welch, streptococcus, and the bacillus pyocyaneus, introduced from without—in milk, water, raw foods, or foreign bodies.

SYMPTOMS AND DIFFERENTIAL DIAGNOSIS: The onset is usually acute in both forms, but may be preceded by indigestion in either. Vomiting, loss of appetite and loss of weight are common to both. In fermentative diarrhea, the temperature is apt to be higher, with a decline at the end of four or five days. In the infective type, the temperature is not often high except at the very beginning, but runs a prolonged course over a period of several days or weeks. The abdomen is usually distended in the fermentative form, but there is very little pain or tenesmus present, while the infective type presents a flat or sunken abdomen, and usually pain with tenderness, especially over the colon. The character of the stools is the main point of differential diagnosis. The fermentative type usually produces a green, watery, irritating stool, acid to litmus, and with undigested particles of food. The infective type is characterized by the presence of blood and pus, very little odor, alkaline in reaction, brown in color, and non-irritating. While the absence of blood in the stool neither excludes infectious diarrhea or proves fermentative diarrhea, its presence is proof of an infection.

Meningeal symptoms, as muscular twitching, restlessness, stupor, coma and convulsions, are common to both types of diarrhea.

Before taking up the treatment proper, one should mention prophylaxis. We should encourage breast feeding, properly supervising artificial feeding, advocate boiling all milk

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during the first two years of life, and educate against gross dietary indiscretions. The foods of all babies should be reduced during the hot summer months. The mothers should be instructed not to over-clothe the babies during hot weather.

TREATMENT: The type of diarrhea you are dealing with should be determined, if possible, before beginning any form of treatment. In mild cases where there is no dehydration, a preliminary catharsis is indicated. For this I use castor oil with a few drops of paregoric. Then, all food should be stopped for a period of twelve to twenty-four hours, depending on the severity of the case. The starvation period is absolutely essential. During the starvation period, if the baby is not vomiting, water should be given freely, sweetened with saccharin, but if the baby is vomiting, water should be given in small amounts and often. At the end of the starvation period, these patients must be fed, and, in my opinion, this is the chief part of the treatment, and should be directed towards changing the culture-medium in the intestines so as to produce an inhibitory action on the growth of the organisms and at the same time nourish the child. The nature of the food depends on the type of diarrhea. In the fermentative type with the greenish, watery, acid, fermenting stools there is a distinct indication for a particular type of food. The disturbing organisms here thrive on a carbohydrate medium. With the excessive fermentation, there is also an interference with the digesting of fats. So the proper food must be high in protein and with a minimum of fats and carbohydrates. The requirements are well met with protein milk. In two or three days, sugar in some form should be added, the rapidity of its increase depending on the baby's condition. I think the red karo syrup is the best form of sugar to use since it is a mixed sugar and causes less disturbance in the intestinal tract. After the sugar is added, the baby can be kept on this formula for a few days, then the protein milk may be gradually substituted by boiled skimmed milk. Another useful food in this type of case is lactic acid milk.

In the infectious type of diarrhea, where the stools are alkaline, non-irritating, with blood and mucus, we are dealing with a proteolytic organism with toxic end products. The protein milk given in the above type of case is contra-indicated in this type of case. Indica-

tions here are for a high carbohydrate diet with low protein and fats. It is usually best to begin with cereal waters and add one-fourth skimmed milk, boiled with cereal waters and cane sugar. The cereal water may be gradually replaced by boiled skimmed milk, and, finally, add whole boiled milk.

High saline irrigations, if properly given, act well by flushing the lower bowel, and at the same time add to the fluid intake.

There are two serious complications to watch for in severe diarrheas,—acidosis and suppression of the urine.

In the severe cases with dehydration, characterized by pinched, ashen facies, depressed fontanelles, sunken eyes, wrinkled skin which stands up in folds when pinched, marked toxemia with vomiting, scanty urine and irregular respiration, it is not a question of feeding or of medicines, but a question of administering fluids in every possible way.

Fluids may be given by mouth, bowel, subcutaneously, intravenously, intraperitoneally and intrasinusly. When a baby has a diarrhea and vomiting, fluid by mouth or bowel is very ineffective. This is an emergency case, and here is the place where heroic measures must be used in order to save life. You can give from 200 to 300 c.c. of normal saline subcutaneously with a 50 c.c. Luer glass syringe and needle. This procedure may be repeated every six to eight hours. You may also give the same amount of normal saline into the peritoneal cavity with no difficulty and very little danger. In the latter procedure, it is better to use a gravity apparatus, such as an old salvarsan column with rubber tubing and an ordinary intravenous needle with a short bevel, introduced in the median line about one inch below the umbilicus.

If the baby is under one year of age, intrasinus therapy is comparatively simple and safe if a needle guard is used. In severe cases of acidosis, glucose and insulin intrasinusly is a life-saving procedure.

If the baby is very restless and vomiting, morphine grs. 1/60 is very helpful to a six-month-old baby.

AN IDEAL APPENDECTOMY.*

By M. B. HIDDEN, M. D., Warrenton, Va.

The operation which I shall describe has been developed at the Fauquier Hospital, War-

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renton, Va., and at the Loudoun Hospital, Leesburg, Va., and has been used successfully at these hospitals for about two and one-half years.

In order that an appendectomy may be ideal or as near so as possible, the following should obtain:

Operate immediately after diagnosis is made; the earlier, the better, no matter how well the patient may feel.

The patient should be neither very obese nor much emaciated.

It is better, of course, to have a subject neither extremely young nor markedly senile.

This operation, however, works well in the extremely fat, the emaciated, the aged and the very young.

It is also quite satisfactory in ruptured or gangrenous cases and in cases with many adhesions, even if the appendix is retrocecal or in any other abnormal position.

The skin incision, not over two inches long and often less, is made just external to and just below the anterior superior spine of the ilium and on an imaginary line radiating from the umbilicus. After loosening the skin and the fat from the underlying tissues over a small area, the incision is pulled upward and inward until it is just internal to and slightly above the anterior superior spine. Then, close to the ilium we separate the muscles after the manner of McBurney. The peritoneum is pulled upward from the iliac fossa and is opened as far posteriorly as possible, that is, external to the cecum and internal to the bone.

After delivering the appendix, the meso-appendix is caught with a series of clamps while being dissected away from the appendix. The appendix is tied off, though this may not be necessary. A purse string of chromic catgut number 0 is used. The appendix is severed, its stump is cauterized and turned in. In tying the purse string, the free end is left about three and one-half inches long and the needle end much longer. Then with the single catgut and beginning opposite the meso-appendix, the cecum is sewed over so as to bury the stump the second time. This line of suture ends over the meso-appendix and with the free end the catgut is tied so as to make the suture double. Then, with this double suture, the meso-appendix is sewed over and tied down to the cecum.

The small opening in the peritoneum is tied

in the manner that you would tie an artery or the mouth of a bag. As this opening is to a great extent between the cecum and the fossa, it may not be necessary to close it at all.

We close the internal oblique and invert its edges with one stitch of catgut. By lapping the edges, the external oblique can also be closed with one stitch. It would probably be all right not to use any sutures in these muscles.

The skin incision when released goes back to its original position, external to the spine, and is closed with a subcuticular stitch of fine catgut. The incision can be dressed with collodion or a very small piece of gauze held in place by adhesive and the abdomen is not restricted.

When possible this operation should be done under a local anesthetic. We use novocain, one-half per cent, with three drops of adrenalin to the ounce. After thoroughly blocking off the area, twenty to forty cubic centimeters of the solution are injected into the right iliac fossa intra-peritoneally. This renders the peritoneum in this region insensitive and the appendix can then be delivered without pain and without abdominal cramps.

Advantages of the above procedure:

The small intestines are not handled.

We enter the abdomen over the base of the appendix and the appendix is easily found.

Little or no gas is developed.

There is much less nausea.

The operation can be done quickly.

The patient sits up in a chair on the second or third day and walks out of the hospital and goes home on the fifth day.

Breathing and coughing tend to pull the skin incision together and not apart.

There is very little pain and the patients are quite comfortable.

Post-operative hernia cannot develop.

The scar, usually the only thing connected with the operation seen by the patient, is very small.

There is no surgical shock.

The abdomen is entered through an area that is not very vascular and has relatively little fat.

It is seldom necessary to tie a blood vessel.

Patient can go home on the fifth day.

We believe that the following points may be somewhat original or at least they are not in general use:

The position and the direction of the skin incision.

The manner of opening the peritoneum.

Injecting the anesthetic solution intra-peritoneally.

DEMENTIA PRECOX.*

By JOHN R. GILL, A. B., M. D., Petersburg, Va.
Central State Hospital.

Dementia precox is in many respects the most important of all the psychoses. It is estimated that more than one-fourth of all insanity is due to this disease. Between thirty and forty thousand people yearly fall victims to this dread malady. There are twice as many hospital cases of dementia precox as there are of tuberculosis. The onset of dementia precox usually occurs soon after adolescence or in the first flush of manhood and womanhood. This disease takes as a majority of its prey the young developing manhood and womanhood of the world.

Dementia precox is often called schizophrenia, which means there is a fundamental splitting of the emotional, the thought and the motor processes. It is for this reason that dementia precox patients are termed unpsychological. They feel, say and do things that are so different from a normal person's reactions.

Dementia precox is a chronic progressive mental disease in most cases and leads to mental deterioration.

Etiology: William A. White states that heredity is a doubtful factor as the cause of dementia precox. The future patient might show some mental dullness in his early youth, but frequently shows unusual and even brilliant mental powers. Wolfsohn, of Zurich, found hereditary taint in about 90 per cent of his cases.

Von Monakow has advanced the theory that the choroid plexus fails to act as a selective filter for the products of metabolism and endocrine secretions. The choroid plexus thus loses its power to neutralize and detoxicate the internal secretions.

The endogenous toxins have been stressed recently a very great deal as the possible cause of dementia precox. The internal secretions from the testicles and ovaries have been especially emphasized.

The most recent development is the psychogenic theory as the cause of dementia pre-

cox. Meyer considers dementia precox from a biological standpoint as the result of being unable to adjust with the development of unhealthy biological reactions. The abnormal child with neuropathic tendencies is a fertile field for the development of a future dementia precox.

Various difficulties arise in people of an abnormal character make-up, especially in those people who have a shut-in disposition. This type of personality does not meet difficulties openly and frankly. They are inclined to be seclusive, not mixing with people, and do not make friends.

Pathology: Very little pathology has been found in the brain of the dementia precox patient. The nuclei of some of the brain cells shows destruction and the consequent disintegration of these brain cells. Some lipid deposits have also been found in the brain cells.

Mott has found that the vast majority of male dementia precox patients show a regressive atrophy of testicles. In females the ovaries show a degeneration of the nuclei and the consequent destruction of ovarian cells with replacement by fibrous tissue.

On the basis of these researches, Mott formulated the hypothesis that dementia precox is the expression of an inherent lack of vitality in the fertile ovum which manifests itself biologically in a progressive failure of nuclear proliferation in the productive organs and in a lack of durability in the cortical cells.

Symptoms: I will first give some of the general characteristic symptoms of dementia precox.

A majority of dementia precox patients show a seclusive or shut-in type of personality. They do not like to visit or confide in other people, but prefer to stay by themselves.

I have already mentioned splitting of the emotional, the thought and motor processes. It is due to this splitting that a dementia precox can kill his wife or best friend without a vestige of sorrow or emotion. It is this fundamental disturbance in coordination which produces failure of voluntary attention and the lack of interest which these patients show in themselves and their environment. This lack of interest produces a marked indifference in the patient for practically everything. There is also a gradual blunting of the emotions which leads to emotional deterioration. Their expressions of joy or sorrow are shallow and of short duration, if they occur at all. News of a death

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or birth is received with the same lack of emotion. Accompanying this emotional deterioration there is a dilapidation of thought and judgment. These defects progressively increase as the disease advances. There are four types of dementia precox:

1. Simple.
2. Paranoid.
3. Hebephrenic.
4. Catatonic.

1.—*Simple Type*.—The simple type of dementia precox is usually insidious in its onset. At first the person shows a lack of interest in things. He no longer visits and mixes with other people, but prefers to stay at home by himself. He associates less and less with other people. Transitory delusions and hallucinations may be present. A large number of criminals, hoboos, prostitutes and eccentrics belong to this group, because they cannot adjust to the complex conditions of modern society.

2.—*Paranoid Type*.—The paranoid type is characterized by the prominence of numerous delusions. The delusions may be either of persecution or of grandeur. Frequently the same patient will have ideas of both persecution and grandeur. A patient may think that some enemy or group of enemies may be trying to harm him or interfere with him in some way. Again, the patient may have numerous expansive ideas of grandeur and think that he is a king or some exalted person. We have four or five patients at Central State Hospital who imagine that they are God, and numerous kings and queens. These ideas of persecution and grandeur are usually well fixed and systematized in the patient's mind.

The paranoid type of dementia precox have hallucinations in the various fields of hearing, vision, taste, etc. The hallucinations of hearing are called voices and are the most frequent in occurrence. These voices usually tell the patient disagreeable and ugly things. These voices frequently threaten them. The patient may have visions of angels, God, dead relatives, or anything. The patient may imagine that he has been poisoned. Some of these patients talk very freely about their delusions. Others are very guarded in all of their statements. The paranoid form is dangerous, as they might imagine a total stranger is one of their enemies, and try to avenge themselves on this enemy by some act of violence. The paranoid builds an elaborate world of phantasy in which he lives.

3.—*Hebephrenic Type*.—The hebephrenic

type sets in with a more rapid onset. They become indifferent and frequently appear to brood over something. The hallucinations appear and involve both the auditory and visual fields. The voices may tell the patient disagreeable things at first, but later the voices tell the patient pleasurable things. The patient will sit by the hour listening to the voices, smiling and grimacing. They thoroughly enjoy listening to the voices. If any delusions are present, they are usually of a silly nature. A patient may think that he does not have a head, or has a living rat in his stomach, etc. The hebephrenic may have numerous delusions which are absurd, grotesque and silly. They may show mannerisms.

4.—*Catatonic Type*.—The catatonic type is divided into two stages, which may irregularly alternate. They are catatonic stupor and catatonic excitement. In catatonic stupor the principal symptoms are stupor, negativism and muscular tension. In this stage, the patient is usually mute, and pays no attention to questions. The mutism is one of the manifestations of negativism. The negativism shows itself in many ways, such as refusing to eat, and paying no attention to the calls of nature. They allow the bladder and rectum to become over-loaded with urine and feces. Saliva collects in the mouth for hours until the mouth will hold no more and it dribbles from the mouth.

Any attempt to move the body meets with muscular resistance and tension. In some patients you find a condition of flexibility. The extremities may be placed in any desired position and will be maintained there indefinitely until gravity and fatigue causes them to fall. This is known as waxy flexibility. The patients in this state obey the commands that are given them.

In the condition of catatonic excitement the patients are constantly talking, shouting and showing increased psychomotor activity. These actions are absurd and are not directed consistently to any end. These patients are well known for their impulsive acts which they commit suddenly without warning.

Prophylaxis: Preventive measures are dependent upon early recognition in child of precox potentialities. Try to develop a normal child out of the abnormal. The child should be interested in athletic sports, amusements and in other children. Psycho-analysis may be of some aid. It is important to talk freely to the child about the mysteries and problems of sex.

The child should be protected as much as possible from the trials and stresses of life and should be educated to become self-reliant in the face of difficulties, and be able to adapt himself to his environment.

Treatment: After the development of the dementia precox, institutional care and occupational therapy are recommended for the patient. It is necessary to keep the patient occupied both mentally and physically to retard the deterioration. The patient preferably should be encouraged to some form of outdoor occupation. Psycho-analysis may be of some value in the treatment of the patient.

MENINGITIS OF OTITIC ORIGIN— REPORT OF CASES.*

By
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The middle ear cavity should be considered an accessory nasal sinus, modified by its relationship with the organs of hearing and equilibrium, and by its peculiar extensions by pneumatization into the temporal bone. In childhood, with the short, relatively wide Eustachian tube, every cold has its manifestations in that cavity; in later life, with the increased length and tortuosity of the tube, there is less communication by direct extension. The position of the tubal tympanic orifice is in the most dependent portion of the cavity, so that nature has generously provided a drainage outlet, as well as a portal of entry. In spite of the involved anatomy, as compared with the other sinuses, work has been early, painstaking and advanced in the histology, pathology and physiology of the structures, and a review of the literature will show the same operative—non-operative struggle in the treatment of infections of the middle ear and its adnexa that is now raging in the other sinuses. Fortunately, the work has rather crystallized in the case of ear surgery, and one of the factors that prompted this standardization has been the fear of meningitis in middle ear suppurations. That this is no empty fear, our own personal experiences bear out, and we all can bring out memories of cases that have had this unfortunate termination.

In contra-distinction to these non-contagious secondary cases, there must be considered

cerebrospinal fever, which is a communicable disease due to a gram negative diplococcus, the meningococcus, characterized by a gradual invasion of the body; first, a local infection of the upper respiratory tract, then an extension to the blood stream, and, later, after perhaps five days to seven weeks, a localization in the meninges.

Prognosis in the secondary cases, even with our present knowledge of methods to be employed in treatment, is almost uniformly bad. The cases to be reported represent different types of meningeal involvement encountered, and the vagaries they presented re-awakened a desire to go out into this field anew.

In a summary of cases by Coates, Ersner, and Persky, seen in Coates' otological service at the University of Pennsylvania from the years 1922 to 1929, inclusive, 644 mastoid cases were admitted and the cause of death in seven were given as meningitis, while brain abscesses were reported in twice that number as a cause of the fatality.

In this country, some of the most thorough and painstaking work and investigation in the field of intradural complications either from middle ear or sinuses has been made by Eagleton, and he believes that with a more complete study of the mechanism of invasion, more can be done to decrease the almost one hundred per cent fatalities, which at present are a feature in meningitis of this type.

In the cases to be reported, the one which showed the classic picture of secondary meningitis, complicated by diabetes, untouched by surgery with the exception of a spinal puncture, was a complete recovery. In the cases to be considered as meningitis, those are not here taken to include extension meningitis, such as occur from a contiguous intracranial abscess.

The infective agent varies, and may be any one of several groups. It is not uncommon for tubercular meningitis to be confused with meningeal manifestations from ear suppuration, and it is probable that a more careful post-mortem would have exposed the pre-existence of a tuberculous infection, in some cases complicated with a secondary later organism.

A protective serous meningitis is not infrequently found adjacent to any suppurating area, and is interpreted as being caused by a few organisms penetrating by a blood or lymph route from the ear, and these exert a toxic effect here on the choroid plexus and cause an

*Read before the Homeopathic Hospital Medical Staff, June, 1930.

increased production of the cerebrospinal fluid, with rise of pressure, symptoms of severe headache, vomiting and vertigo. These cases may present paralysis of the external rectus, even complete oculomotor paralysis, or possibly retino-papillary edema of a mild degree. With them, the clinical picture is radically changed by a puncture or by an operative removal of the original source of infection. There may be delayed or latent meningitis, in which there is a lapse of considerable time from the middle ear infection until the onset of the meningitis. This type of case more frequently occurs in elderly patients in whom the process in the tympanum may be entirely healed, but there may be isolated, minute abscesses in the posterior surface of the bone from which extension spreads.

In suppurative conditions of the cerebral contents, the pathway of an invasion for both meningeal infection and a deeper suppuration is very similar. There may be direct invasion by micro-organisms; or there may be invasion by either the vascular or perivascular routes. In an infection of the venous route, there is an infective thrombophlebitis, while in the arterial route and in the perivascular route the infection extends in a different direction from those of venous invasion, one with the course of the blood stream, the other against it.

Under the auspices of the Triological Society, material is collected and reports made from the Otological Research Laboratories at Johns Hopkins, and so far over seven hundred post-mortems, under direction of Crowe, has shown:

1. There is extension of the otitis media to the labyrinth and meninges by way of the round window, stapediovestibular articulation and fissura ante-fenestram.

2. Extension of primary meningitis to the labyrinth may likewise occur by way of perivascular spaces of the auditory nerve, the perivascular spaces of the modiolar vessels, and the codilear aqueduct. This accounts for the post-mortem mastoid, and middle ear involvements found in primary meningitis.

The question of surgical trauma as a factor in the production of both infections of the dura and sub-dural space must be considered, especially in the temporal region. The dura in this area is held firmly to the brain, and the infection will pass directly through the dura and sub-dural space into the substance of the temporal lobe. The combination of

meningitis and a brain abscess is not unusual. Naturally all brain abscesses, if at all extensive and superficially located, are accompanied by meningitis.

All investigators of the German and Austrian schools lay great stress on careful blood studies as giving an index to grave complications. In the intracranial complications, the displacement of the Schilling is found to the left as a rule. The diffusion of hydrogen ion concentration in the cerebrospinal fluid in otitis with complications shows a displacement toward the acid side. On the basis of the cerebrospinal changes, two general groups can be distinguished. In the one group are the acute inflammations associated with a rise of fluid pressure, plus albumin content, very little change in the glycogen, negative globulin reaction and scanty lymphocytes. The second group are more often chronic inflammations, with intracranial complications, and increase of the total albumin, rise of pressure, diminution of dextrose, negative globulin, and scanty polynucleosis.

In the meningism of pneumonia or intestinal intoxication, there may be an increase of the protein content of the fluid, but not of the cell count. Schippers and Peters report that in the presence of meningitis fluorescein sodium, given by mouth in doses of 20 mg. per kilogram of body weight, passes into the cerebrospinal fluid in higher than normal concentrations.

Meningitis is subject to physiological control, and the factors involved are brought out by Eagleton, who believes Nature's process of defense occurs in the sub-dural space. The excessive secretion of fluid, containing few micro-organisms with a slight exudate, soon disappears, for, according to Eagleton, the sub-dural cells, which are similar to those in the peritoneum, proliferate and readily form adhesions and wall off the area of inflammation, but when it reaches the stage of purulent leptomeningitis, from the vertex to the lumbar cord, and the fluid on puncture contains organisms, no present method can relieve it.

Here is the necessity for an early diagnosis, while the infection is limited to circumscribed areas; expose bone and then open dura and let out the infected fluid. Inflamed dura is thicker and walled off, and a localized immunity exists.

Division naturally falls into three surgical groups:

1. Secondary to lateral sinus thrombophlebitis, frequently with a cerebellar abscess.

2. Middle fossa cases, infection through the tegmen tympani.

3. Labyrinth cases by extension.

The cases selected show the various clinical types, except the third group.

Case I.—Morrell, man, age sixty-six years, gave a history of chronic suppuration, left middle ear, which had gone on for years. Had applied for some treatment of his ear. Became immediately worse after treatment. Had intense pain in his head and neck, and by midnight or early morning became irrational. On being seen at the Homeopathic Hospital, April 9, 1930, was unconscious and in convulsions. There was considerable edema and swelling around the back of the ear, and, with the hope of finding a localized focus, an exploratory operation, after consultation, was considered advisable.

Spinal puncture was made during the beginning of anesthesia, which was impossible in his restless condition without an anesthetic, and the fluid was found cloudy. Rapid exploratory operation was made on his mastoid and dura in the mastoid and upper mastoid area. The lateral sinus was exposed, and free incision made in the dura through lower part of the middle fossa after needle puncture. No pus, but flaky exudate was found. Death occurred late that night. No post-mortem was permitted.

White count at the time of admission was 28,200 with 85 per cent polys.

Spinal fluid report showed numerous polymorphonuclear cells, and the smear showed short chain cocci, probably streptococci; also some diplococci, type not determined, probably atypical streptococci.

Case II.—Col. C., man in middle fifties, gave history of middle ear abscess two months previous to entering hospital. Abscess had cleared up apparently, but low grade headache had continued. Being called by his family physician who suspected a meningitis, we advised hospitalization and patient was brought to Garfield Hospital. Radiographs of the suspected mastoids showed completed cloudiness and breaking down on the right. After consultation, operation was determined upon. On spinal puncture, which gave cloudy fluid, the mastoid was thoroughly opened and found full of granulation and osteoid tissue, the beginning reparative process of nature. Dura of the

middle fossa was exposed. The lateral sinus which was exposed but inadvertently opened, was packed off. A wide incision was made in the dura of the middle fossa, apparently showing some increase of tension. The patient did not recover from his unconscious state which had preceded the operation, but apparently breathed much more freely and lived about three days.

Discussion: In these cases, about the only thing we can say is we have not yet found nature's secret of repair, nor the process of her defense mechanism, which must exist, or there would have been a fatality in all the other cases. This second patient was very obdurate in refusing follow-up treatment for the middle ear abscess. He stated that he felt all right, and, even after the vomiting and meningitis set in, contended it was merely due to a dietetic indiscretion.

Case III.—Mrs. C. F., age fifty-eight, weight 219 lbs., gave a history of the usual diseases of childhood, including pneumonia and grippe in the recent past. She had had four children, all of whom died in infancy, and four miscarriages. Examination showed a negative Wassermann and Kahn. Cardiovascular system was markedly involved, with blood pressure high, compensation beginning to break, blood sugar ranging from 83 to 148 mgms. per 100 c.c. of urine, negative acetone and diacetic acid. About eight weeks prior to entry into the hospital on June 29th, 1926, she developed an infection of the left middle ear, following a cold. Seven paracenteses had been done, with no relief from pain and no cessation of the discharge. She was given 5 to 10 units of insulin b.i.d., special diet, and the ordinary ear irrigation of boric acid solution. She stayed in the hospital until July 14th, when she was discharged after some improvement, but was readmitted August 10th. Her X-ray had been taken and the report was definite involvement of the left mastoid. On her re-admission on August 10th, she showed beginning stupor and projectile vomiting, which had started about twelve or twenty-fours before admission, and which had been preceded by persistent, progressive and continuous headache, and constant pain in the left mastoid area. The usual symptoms of meningitis were present and a Toby-Ayre lumbar puncture was made, the initial pressure being .6. Rise with compression of both jugulars was 1.4. On compression of left jugular alone, it was .6. On compressing the

right jugular alone, it was 1.4., showing that there was obstruction of the left jugular or lateral sinus, while the right side was clear. Left internal jugular was found collapsed and was ligated. Death occurred on the 12th, autopsy findings showing a purulent meningitis, particularly on the convex surface, with left sinus thrombosis and pus in the middle and left internal ears.

Discussion: This is about the result one would expect in a condition of this character, and a question naturally arises as to whether or not it would have been best to make a radical exposure, in spite of the diabetes, before the pathologic condition had advanced to such a degree.

Case IV.—Mrs. E. S., age thirty, weight 132 lbs., height 64½ inches. Family history showed father was dead, age sixty-four; mother was living, age sixty-three, but had high blood pressure; four brothers were living and well; there were four sisters, the oldest with diabetes. The patient had had usual diseases of childhood, including diphtheria; teeth negative; tonsils negative; two children were living and well. She had been under treatment for diabetes for the past four years, taking insulin b.i.d. She had never been in a coma. About January 5th, she had symptoms of an upper respiratory infection, which had infected others in the family. On January 7th, acute suppurative otitis media, right, developed, necessitating myringotomy under ethyl chloride anesthesia. Normal reaction continued for about three days, with some local tenderness, then constitutionally an acidosis developed which was treated by Dr. Castell. In a few days the acute condition subsided; temperature was normal by the 14th, and continued so for about three days, when she began to complain of such an intense pain and headache one night that an injection of morphine was required to relieve her. When she was seen in consultation about ten o'clock the next morning, she was showing signs of a beginning meningitis, and a tentative diagnosis of meningitis was made. She was sent to George Washington Hospital, being admitted about 2:15 P. M. She was then semi-comatose and irrational, temperature ranging around 105.6 per rectum. Laboratory findings showed blood sugar 234 mgm., urine strongly positive for sugar; w.b.c. 20,800; 90 per cent polys. Spinal fluid pressure was 22 mgm. The fluid itself was purulent, and contained 4,750 white

cells per m.m., 97 per cent polys, while a smear showed a short chain coccus and diplococci, which, on later culture, proved to be a hemolytic streptococcus in pure culture. Smears from the ear showed a mixed infection, staphylococci and streptococci, with the streptococci predominating. A radiograph taken later showed the right mastoid with a diffuse density, very few clearly definite mastoid cells still containing air. The general appearance was that the bony septa were being broken down, giving a worm-eaten appearance. The patient continued unconscious for three or four days; temperature dropped to normal after forty-eight hours, and by January 21st she was entirely clear mentally. She complained of some headache and backache, occasionally an abdominal pain and double vision. There was some urinary retention, but by the 23rd she was apparently normal. She was allowed to leave the hospital shortly after this, got out of bed on February 13th, and was downstairs in her house on March 7th. The treatment given was that indicated by her diabetes, with the exception of the routine cleansing of her ear and the instillation in the canal of gentian-violet.

Comment: Was the decreasing of blood sugar by a more thorough anti-diabetic routine the factor, making it impossible for the infecting organisms to survive, which must have been of a strain requiring a pabulum of high sugar value, the cause of this recovery?

The next cases are important in showing, in the first, a corresponding dural reaction to frontal sinus extension, while the others showed, in our opinion, a terminal ear invasion from a primary meningeal infection.

Case V.—Mr. C., age seventeen years, gave a history of the usual infections of childhood, with some tendency to upper respiratory involvements. Developed infection of the right antrum and right frontal while at school. Was treated by specialists in Nashville; had several antrum punctures; later, here, had a Luc-Caldwell opening of the antrum which cleared up the antrum, but intense headache continued. Finally, after he had convulsive seizures of an epileptoid type, an external frontal was done. The frontal was found filled with pus, under great pressure, and, on exploration the posterior wall, appeared absolutely devitalized. The wound was left wide open, no attempt being made to continue the opening into the ethmoids. The patient made a very stormy

convalescence, and one day had as many as seven convulsions, each time turning the head to the left. Spinal puncture was done. Pressure was not increased, but 24 cells to the mm. were reported. Prognosis was extremely grave. The patient, after a rather long period of weakness and depression, made a complete recovery.

Discussion: There was apparently a cerebral meningitis just back of the frontal sinus, a silent area, which was walled off by Nature's defense method, and the patient recovered. There is, of course, the possibility of later trouble for delayed frontal lobe abscesses are not unknown.

Case VI.—Mr. E. O. was the son of a confrere who had a particular dread of just what later happened, and who stated that a son of his professor in otology, while a medical student, had died from an unsuspected ear infection, leading to meningitis.

In this case, being forewarned, every day examination was made of the ears. A mild naso-pharyngitis was about all that appeared, with a little reddening occasionally in the right drum and a slight temperature. He was seen by several consultants and nothing was made out. Finally, a right supra-orbital herpes zoster appeared. On examination later a collection of serum behind the drum showed, so a paracentesis under gas was performed, a few drops of serum escaping. The incision closed in twenty-four hours, but later intensification of the cerebral symptoms led to the advice to the parents of the desirability of a mastoid exploration. When this was done, no pathology was found in the cells, but a few drops of pus appeared in the mastoid antrum. A spinal puncture was made immediately and the fluid was found cloudy. The pus from the mastoid antrum and the spinal fluid both gave pure culture of pneumococcus. Death occurred in about five days, the typical meningial cry and other symptoms appearing.

This case for years has been pondered over, and, while not attempting to defend an error, if there was one, it still seems probable that this was an extension downward along the pathways Crowe has since brought out.

1801 Eye Street, Northwest.

In complaining of what the world has done for you, it is well to stop and consider what you have done for the world.—*Selected.*

THE PHYSICAL DIAGNOSIS OF HEART DISEASE

With the Aid of Diagrams, Tables, and Notes.

For Students, Instructors, and the General Practitioner.†

By OSCAR SWINEFORD, JR., B. S., M. D., University, Va.

In determining the presence or absence of heart disease in his patient, the examiner is confronted with two problems; namely, what to look for, and how to interpret what he finds. The extent of his findings will vary directly with the systematic orderliness of his search. The accuracy of his interpretation will vary with his ability to visualize a mechanism which can produce what he finds.

The attempt is made here to make these problems easier. Accordingly, the things to look for, together with the procedures necessary for finding them, are listed first (Part I). Next (Part II) are brief discussions of how the more frequent findings of heart disease are brought about and how they manifest themselves. Finally (Part III), there is a drill, by means of diagrams and detailed references to the tables and text, in working out the diagnostic criteria of chronic valvular, hypertensive, thyroid and congenital heart disease and of aortic aneurysm.

For arbitrary reasons some relevant topics have been omitted or barely mentioned, others have been stressed unduly perhaps. Disturbances of rhythm and conduction, of the myocardium, pericardium, and coronary circulation are merely mentioned. Symptomatology, prognosis and treatment are not included. Statements relative to controversial points are intentionally didactic for the sake of brevity. For more detailed study of any topic herein the reader is referred to the textbooks and articles in the bibliography.

PART I

I.* In the examination of the heart and great vessels, we expect disease to manifest itself (a) by alterations from the normal size, shape, rate, rhythm, and character of the individual sounds, (b) by the appearance of abnormal impulses, thrills, murmurs, signs of congestion, cyanosis, blood pressure changes,

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*Roman numerals, I, refer to divisions of the text by topics. Small letters, (a), refer to subdivisions of the topics.

Arabic numerals, 1, refer to further subdivisions by items. Reading will be facilitated by disregarding these until one comes to the drill in Part III.

There are no detailed references to the appended bibliography.

and undue influence upon contiguous structures.

The diagnostic procedures employed, at rest and after exercise, for the detection of these manifestations of cardiovascular disease are: inspection,¹ palpation,² percussion,³ auscultation,⁴ blood pressure determinations,⁵ electrocardiographic⁶, and Roentgen-ray⁷ examinations.

A brief explanation of the pathological physiology of some of the outstanding diagnostic manifestations of heart disease, with notes on a few diagnostic procedures, follows:

PART II

II. *Murmurs* are produced experimentally in a tube, through which fluid is flowing under sufficient pressure, by introducing abrupt changes in its caliber. They are believed to be audible vibrations produced by eddies formed when the fluid is "jetted" into a dilated portion of the tube. A narrowing (stenosis) produces murmurs by virtue of the relative dilatation beyond it.

In a normal heart the caliber sequence and pressure are such that murmurs are not produced by blood flowing through it. Accidental murmurs, discussed below, are exceptions.

In the diseased heart the necessary caliber changes may be produced by (a) stenosed, or (b) incompetent valves, (c) dilatation of the aorta, (d) dilatation or narrowing of the pulmonary artery, (e) congenital defects, (f) sufficient dilatation of the aorta, pulmonary artery or one of the chambers to bring about a relative stenosis or functional insufficiency of a valve.

Murmurs are designated as systolic¹ or diastolic² in accordance with the phase of the ventricular cycle in which they occur. They are further described as soft or rough, low or high pitched, blowing or rumbling, early, mid or late, long or short, crescendo or diminuendo, loud or faint. Note is also taken of the direction of transmission and where the murmur is heard best. In general it may be said that murmurs are transmitted³ in the direction of the jet or stream which produces them.

There are several lesions which produce more or less characteristic murmurs. It should be emphasized that atypical murmurs of the more common aortic and mitral lesions may simulate the less frequent pulmonic and tricuspid murmurs. Table I gives the outstanding differential features. (See page 656.)

The differentiation between organic murmurs, secondary to structural changes, and the variously termed "functional,"* "accidental"⁴ or "haemic" murmurs, the significance and mechanism of production of which are as yet unknown, presents an unceasing problem, the importance of which is obvious.

In general the criteria by which these benign murmurs may be distinguished are: They are systolic in time, soft and blowing, and of short duration: they are usually heard best in the pulmonic⁵ area, less often the point of maximum intensity is at the apex or in the aortic area: they are rarely of wide transmission: they occupy a varying position in systole and are usually transient; they are apt to be accentuated by expiration and diminished by inspiration; other signs of heart disease are absent: when, as is frequently the case, they are accompaniments of anemia, fever, physical or mental strain, or thyrotoxicosis,⁶ the correction of these conditions will probably result in the disappearance of the murmur.

It is said that an accidental murmur may be demonstrated at some time in about half of all normal persons.

III. *The Heart Sounds* mark the alternating systolic and diastolic phases of the ventricular cycle.

*The first sound*¹ is due to the composite effects of ventricular contraction plus the closure of the A-V valves. It is normally loudest at the mitral and tricuspid areas. Variations in its intensity in any individual offer a rough measure of the vigor² of ventricular contraction.

*The second sound*³ is due to the closure of the semilunar valves. It is loudest, therefore, at the aortic and pulmonic areas. In youth the pulmonic second sound is apt to be accentuated. This gives way with age to a predominance of the aortic second sound.

A third sound occurring during diastole is frequently heard in normal young people, in mitral stenosis,⁴ and in failing hypertensive hearts.

In any individual the intensity of the sounds is modified by the depth and character of the intervening chest wall and lung tissue, and by fluid if present. Accentuations of sounds are commonly noted in those conditions which

*Unfortunately the term "functional" has been applied indiscriminately to the murmurs indicated in II(f), as well as to the accidental or haemic type. It is believed that much confusion would be avoided if the term "functional" were applied only to those murmurs occurring with the dilatations mentioned in II(f) above. The benign, unexplained murmurs are more accurately called "accidental" than "functional."

cause an increase in metabolism; such as, excitement, exertion, fever, thyrotoxicosis⁵ and severe anemia.

Pathologically, accentuation of the first sound is said to be caused: (a) by contraction of incompletely distended⁶ ventricles, and (b) by the rapid contraction of well filled, well compensated ventricles working against

tension, and; (b) by sclerotic¹¹ changes in the valves or neighboring arteries.

First sounds are decreased: (a) by the slow contraction induced by aortic¹² or pulmonic¹³ stenosis; (b) by weakness of the ventricular muscle.

Second sounds are decreased: (a) by loss of elasticity of the aortic¹⁴ and pulmonic¹⁵ valves,

TABLE I
CHARACTERISTICS OF VARIOUS ORGANIC MURMURS

LESIONS	MURMUR	PITCH	CHARACTER	TIME	DURATION	HEARD BEST	TRANSMISSION	THRILL
1. Mitral regurgitation	Systolic	High	Loud, rough blowing	Early, (masking the first sound at apex)	Long	At apex	To left axilla and back	Present
2. Mitral stenosis	Diastolic	Low	Rumbling	Mid	Variable, usually short	At and to right of apex	Localized	Present or Absent
			Crescendo	Late				
3. Aortic regurgitation	Diastolic	Medium	Soft blowing	Early	Variable	Second right interspace and along left border of sternum	From second right interspace towards apex	Slight or absent
4. Aortic stenosis	Systolic	High	Loud, rough blowing	Early	Long	Second right interspace	Widely and into vessels of neck	Present
5. Tricuspid regurgitation	Systolic	High	Loud, rough blowing	Early	Long	At and to left of xiphoid	Localized	Present
6. Tricuspid stenosis	Diastolic	Low	Rumbling	Mid to late	Variable, usually short	At and to left of xiphoid	Localized	Present
7. Pulmonic regurgitation	Diastolic	Medium	Soft blowing	Early	Variable	Second left interspace and along left border of sternum	From second left interspace down left border of sternum	Absent
8. Pulmonic stenosis	Systolic	High	Loud, rough blowing	Early	Long	Second left interspace	Not into neck	Present
9. Ventricular septal defect	Systolic and diastolic	High	Loud, harsh	Early	All of systole into diastole	Third and fourth left interspace	Localized	Present
10. Patent ductus arteriosus	Systolic and diastolic	High	Loud, harsh (to and fro)	Early	All of systole into diastole	Second left interspace	Into left carotid	Present

the burden⁷ of regurgitant valves or arterial hypertension.⁸

Accentuation of the second sound is caused: (a) by closure of the aortic⁹ or pulmonic¹⁰ valves in the presence of an increased arterial

especially from stenosis. (b) by low¹⁶ arterial tension.

Reduplication of sounds and the gallop rhythms occur under conditions which may conceivably, if not actually, cause an asyn-

chronous production of the right and left components of the altered sound. Such conditions are, conceivably: (a) an abnormal pressure in either the pulmonary artery¹⁷ or the aorta, (b) delayed bundle branch conduction, (c) asynchronous¹⁸ filling of the ventricles, (d) adhesive pericarditis.

IV. *Shocks* are readily palpable accentuations of the heart sounds.

V. *Thrills* are palpable vibrations, usually murmurs, sometimes pleural or pericardial friction rubs, and, occasionally are merely due to a vigorous¹ heart action in a thin person.

Pathologically, stenosed² valves, aortic

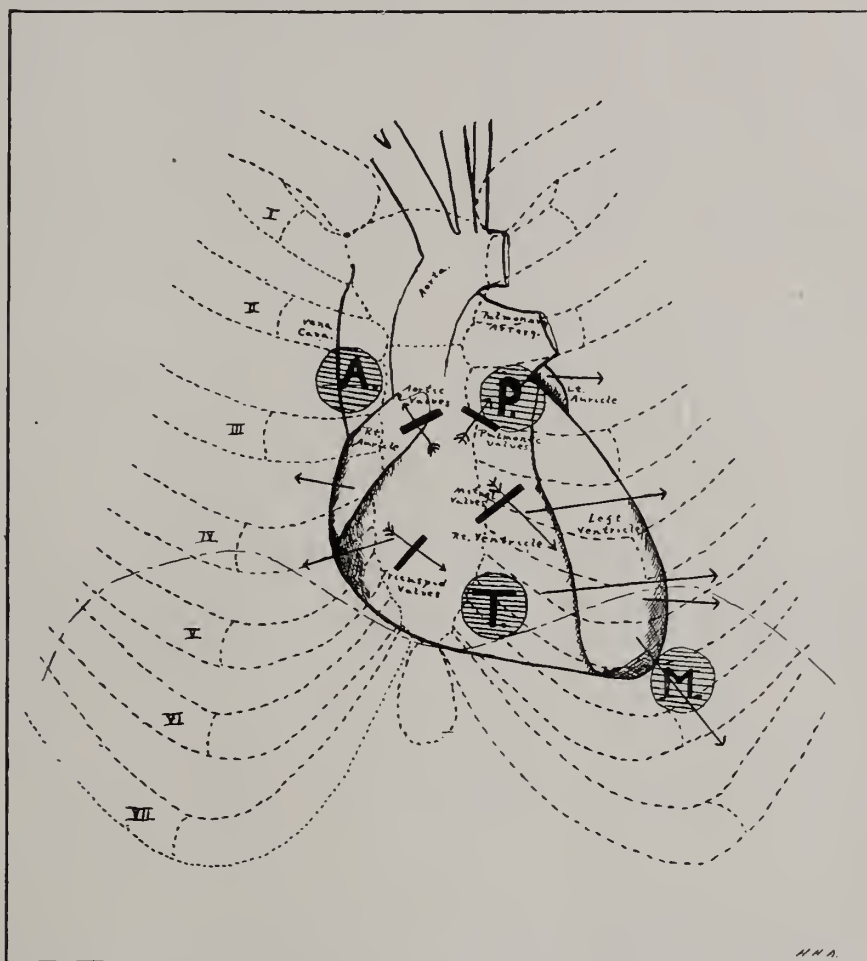


Fig. 1.—Diagram of the anterior aspect of the heart and great vessels showing:

■ the anatomical valve areas;

● the auscultatory valve areas;

→ the normal direction of the blood stream through the valves and the approximate direction of the usual transmission of sounds and murmurs originating in them;

→ the usual direction and interspace in which hypertrophy and dilatation of each of the four chambers is manifested anteriorly.

Reduplications are common in normal people.

The mode of production of reduplicated sounds and of the third sound is a controversial field.

aneurysm³ and congenital⁴ anomalies produce the more intense thrills. Incompetent⁵ valves may produce them. In Graves' disease⁶ there is a thrill, typically, in the thyroid and the precordium.

VI. *Hypertrophy and Dilatation* may be expected in any chamber of the heart which is subjected to a sufficient and sustained increase in the amount of work it must do. Such an increase rarely, if ever, occurs in a normal person.

Pathologically a sufficient and sustained handicap may be imposed by: (a) incompetent valves, (b) stenosed valves, (c) arterial hypertension in the systemic or pulmonary arteries, (d) adhesive pericarditis, (e) myocarditis, (f) thyrotoxicosis, (g) congenital defects.

Dilatation occurring alone follows a temporary demand, usually sudden, which is excessive for the dilating chamber. Failure results unless the demand is removed or compensated for.

Hypertrophy alone is unusual.

When these phenomena occur together they add to the efficiency of the chamber and thus serve to compensate for the abnormal burden. As a corollary, the presence of these phenomena is indicative of a burden, past or present, requiring compensation, i. e., of cardiovascular disease.

Hypertrophy of the left ventricle¹ is suggested by a forceful impulse to the left of the mid-clavicular line in the 5th or 6th interspace. A diffuse precordial impulse transmitted to the epigastrium suggests right ventricular² hypertrophy.

To detect the enlargement of one or more chambers, which will obviously alter the size and shape of the heart (Fig. 1), one resorts to palpation, percussion, X-ray studies and the electrocardiogram.

VII. *Stenosed Valves*, by obstructing the normal progress of the blood stream; (a) produce murmurs which are characteristically rough¹ and accompanied by thrills. They are systolic² in time, if ventricular emptying is impeded. If auricular emptying is hindered, they are diastolic;³ (b) add to the work and induce hypertrophy of the chamber which must force blood beyond the obstacle; (c) lessen or eliminate the valvular components of sounds incidental to their closure, obviously more striking in aortic and pulmonic lesions (III³); (d) lower the arterial⁴ or ventricular⁵ tension beyond the lesion; (e) predispose to congestion, with consequent increase in pressure, behind the stenosis.

VIII. *Regurgitant valves*, by allowing a reflux of blood which has previously been advanced, (a) produce murmurs which are sys-

tolic¹ if ventricular contraction initiates the back flow; if there is a return of blood from the arteries during ventricular filling they are diastolic²; (b) add to the work, with consequent hypertrophy, of the chambers which must pump the regurgitant blood twice; namely, those chambers *into which* and *from which* the back flow occurs; (c) produce congestion, with consequent increase in pressure, in the vascular system normally protected from such a back flow by competent valves; (d) tend to lessen the valvular components of the sounds incidental to their closure; (e) necessitate a greater pulse pressure in aortic or pulmonic insufficiency in order to maintain an adequate mean pressure.

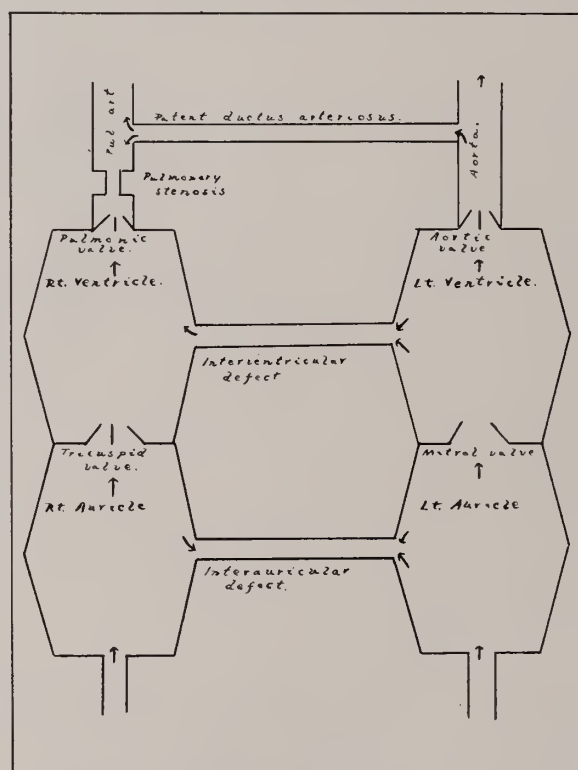


Fig. 2.—Diagram illustrating the common lesions of congenital heart disease.

IX. *Congenital Heart Disease* is the result of prenatal endocarditis, usually associated with sclerosis, or an error in development. The infections have a predilection for the pulmonary valve. The developmental errors are most often an abnormal persistence after birth of some phase of the foetal circulation. Many of these lesions are incompatible with life. Among the survivors, the presence of cyanosis¹ and clubbing² of the fingers and toes is classical, but not invariable.

Multiple lesions are found typically.

The commoner lesions are stenosis³ of the pulmonic valve or atresia of the pulmonary artery, interauricular septal defect⁴ (patent foramen ovale), interventricular septal defect⁵ and patent ductus arteriosus.⁶

Rarer anomalies are coarctation (stenosis) of the descending aorta, hypoplasia of the aorta, transposition of the aorta and pulmonary artery, and dextrocardia.

Many minor defects are discovered only at autopsy.

X. *Cyanosis* is to be expected in any condition in which there is a subnormal oxygen saturation of the peripheral blood. It is commonly seen in heart disease, certain pulmonary conditions, polycythemia, methemoglobinemia, lowered oxygen content of the inspired air, and various diseases of the peripheral circulation.

Cardiac cyanosis manifests itself chiefly in the cheeks, ears, lips, and nail-beds of the fingers and toes.

The disturbances in heart disease preventing normal oxygenation are: (a) congenital septal defects, which shunt venous blood back into the peripheral circulation; (b) mitral lesions and left heart failure, which produce pulmonary congestion; (c) pulmonic and tricuspid lesions and right heart failure, which produce peripheral congestion.

The mechanism producing cyanosis cannot always be demonstrated.

XI. *Aneurysmal Dilatation* of the aorta is usually a mechanical sequel to the destructive and fibrosing sequence of that syphilitic process which generally begins just above the root of the aorta and extends upward into its ascending, transverse and even descending portions, resulting in a distensible weakening of the vessel wall. The same process often extends downward into the aortic ring and valve, producing aortic regurgitation and narrowing of the mouths of the coronary arteries. A similar process may occur in any artery.

Aneurysm of the aorta makes itself known by virtue of its singular rhythmical expansile pulsations,¹ which, together with a progressive increase in size, produce telling pressure effects² upon adjacent structures. The location of the aneurysm in the ascending, transverse or descending portion determines the individual hazard of the near-by sternum, ribs, trachea, bronchi, lungs, esophagus, recurrent laryngeal and sympathetic trunks,

large veins, and vertebral column. The familiar manifestations of pressure upon these structures are: variable types of pain, a tracheal tug, dyspnea, cough, bronchial stenosis and its sequelae, dysphagia, dysphonia, pupillary inequalities, and venous congestion which is often unilateral.

That aneurysm exerts a *damping effect* upon the arterial tension beyond it is suggested by: (a) the inequality of the pulse and blood pressure in the right and left arms when the process is in the transverse arch, between or involving the innominate or left subclavian artery, (b) the frequently noted reduction of the high pulse pressure of aortic regurgitation or of a previously existing hypertension.

That it has a *recoil effect* is suggested by the accentuation³ of the aortic second sound.

The caliber change is conducive to the production of a murmur.⁴

A normal vessel subjected to continuous high pressure tends to elongate and enlarge. Arteriosclerotic vessels become tortuous.⁵

The fluoroscope is a most important factor in the diagnosis of aneurysm.

XII. *The left recurrent laryngeal branch of the vagus nerve*, which loops under the arch of the aorta where the ligamentosum arteriosum joins it, may be stimulated or paralyzed by pressure: (a) of the prominent pulmonary artery and left auricle of mitral disease and (b) of an aneurysm of the left half of the aortic arch. The common occurrence of dysphagia, dysphonia, and cough in these conditions is thus explained, provided, of course, direct pressure on the trachea, bronchi, and esophagus are excluded.

XIII. *Changes in brachial blood pressure determinations* are the result of changes in resistance in the systemic vessels or of function in the left ventricle or aortic valve. The sphygmomanometer, then, is of diagnostic value in: (a) aneurysm (q. v.); (b) differentiating pulmonic and aortic valve lesions; (c) certain arrhythmias; (d) detecting left ventricular weakness, as evidenced by an abnormal lability of the blood pressure in response to normal demands upon the circulation; (e) in detecting and differentiating those conditions associated with hypertrophy of the left ventricle as listed in Table II.

XIV. *The electrocardiogram* is indispensable to the recognition of the several disturbances of rate, rhythm and conduction.¹ It is often invaluable in differentiating between

coronary accidents and acute abdominal conditions, in formulating a prognosis, in following the progress of a case, in estimating operative risks, and in avoiding over-digitalization. It has a singular usefulness in indicating the diagnostic auricular and right and left ventricular hypertrophies of some of the congenital anomalies and of chronic valvular and hypertensive heart disease.

TABLE II

CONDITION CAUSING HYPERTROPHY OF THE LEFT VENTRICLE	SYSTOLIC PRESSURE	DIASTOLIC PRESSURE	PULSE PRESSURE
Aortic regurgitation	High or normal	Lowered	High ¹
Aortic stenosis	Low	Low normal	Low ²
Hypertension ³	High	High	High
Thyrototoxicosis ⁴	High or normal	Normal	High or normal
Mitral regurgitation	Normal	Normal	Normal ⁵

The electrocardiographic criteria of hypertrophy are:

(a) *Auricular hypertrophy.* Enlargement of the P-wave, often with prolongation and flattening or bifurcation of its apex. There are no electrocardiographic criteria for differentiating right from left auricular hypertrophy.

(b) *Right ventricular hypertrophy (preponderance).* The initial deflection of the R-wave in Lead I is downward. In Lead III it is exaggerated and upward.

(c) *Left ventricular hypertrophy (preponderance).* The initial deflection of the R-wave in Lead I is upward. In Lead III it is exaggerated and downward.

(d) Confusing tracings are frequently produced by changes in the position of the heart and in intraventricular conduction.

XV. *Roentgenologic examination*, which includes the use of the Fluoroscope, Teleoroentgenogram (7-foot plate), and Orthodiagram will usually disclose: (a) enlargement of the right¹ or left² auricle, right³ or left⁴ ventricle, pulmonary artery,⁵ aorta,⁶ (b) an abnormal rate rhythm, or excursion, (c) aneurysm,⁷ (d) pericardial effusions or adhesions.

With the electrocardiogram, the teleoroent-

genogram offers a splendid permanent record readily available for subsequent comparisons.

XVI. *Decompensation.* When the diseased heart can no longer sustain the burden imposed by overwork, toxemia, or progressing pathological changes, it fails. The more obvious manifestations of failure are due to congestion¹ of the lungs, extremities, liver, gastrointestinal tract, brain, and kidneys.

Earlier signs heralding congestive failure, for which one must search, are: a tachycardia which is disproportionate in degree and duration to a given amount of exercise; a change

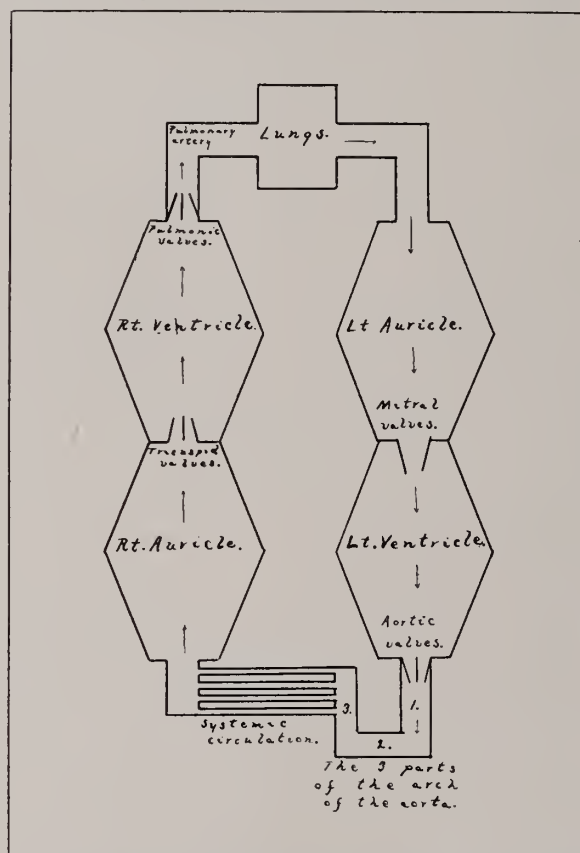


Fig. 3.—Diagram illustrating the normal course of the blood stream through the right heart, pulmonary system, left heart and systemic vessels. Possible dilatation of the ascending transverse, and descending portions of the aorta are indicated.

Stenosed valves and increased tension in the vessels impede the normal course. Incompetent valves allow a reversal of the normal course.

By referring to the diagram and to the text one should be able to predict the characteristic thrills, shocks, murmurs, accentuations of sounds, hypertrophies, congestions, electrocardiographic and X-ray findings of the various valvular and arterial dysfunctions.

in the intensity of the sounds: a change in the character and intensity of murmurs and thrills; a change in the relative duration of systole and diastole; an increase in the lability of the blood pressure; dilatation; and the appear-

ance of an arrhythmia, namely, extra systoles, bigeminal pulse, pulsus alternans, paroxysmal tachycardia, auricular flutter, auricular fibrillation, and heart block. If failure appears these changes may entirely obscure the diagnostic signs of the lesion at fault.

It should be emphasized, however, that failure is by no means the inevitable sequel to each of these phenomena.

PART III

In order to illustrate the diagnostic criteria of the various phases of heart disease listed below, detailed references to the preceding text, tables and figures will be inserted. If the impression is given by the following paragraphs that each, or even most, of the typical signs of a given lesion must be elicited in every case, the purpose of this paper will be defeated. A diagnosis is frequently made, with reasonable certainty, from only two or three cardinal signs: e. g., one would unhesitatingly diagnose aortic regurgitation upon finding the characteristic murmur (Table I) and pulse pressure (Table II).

XVII. Mitral Regurgitation (Fig. III) is usually rheumatic in origin (XXIX(1)), sometimes it is caused by an active infection of the valve, or, in the elderly, by arteriosclerosis. Functionally the valve may become incompetent when there is an uncompensated dilatation of the left heart (II(f), footnote*), as in failure, severe anemia, fevers, and thyrotoxicosis.

The diagnostic criteria are:

1. A systolic murmur (II(b),(1),(3); Table I (1); VIII (1)).

2. Accentuation of the pulmonic second sound. (VIII(c); III(3),(10)).

3. Physical, X-ray, and electrocardiographic evidence of hypertrophy of the left auricle. (I(1),(2),(3); VI(a); Fig. I; VIII(b); XIV(a); XV(2)).

4. Physical, X-ray and electrocardiographic evidence of hypertrophy of the right ventricle. (I(1),(2),(3); VI(a),(2); Fig. 1; VIII(c); XIV(b); XV(3)).

5. Physical, X-ray and electrocardiographic evidence of hypertrophy of the left ventricle. (I(1),(2),(3); VI(1); Fig. I; VIII(b); XV(4)).

6. Suggestive evidence, such as

a. Cyanosis (VIII(c); X(b)).

b. Reduplication of the pulmonic second sound (III(17)).

c. A systolic thrill at the apex (V(5); Table I(1)).

XVIII. Mitral stenosis (Fig. III) is almost always rheumatic (XXIX(1)), rarely arteriosclerotic. The large left ventricle of aortic regurgitation and sometimes of hypertension may cause a relative (functional) stenosis of the mitral valve (Austin Flint). (II(f), footnote*)).

The diagnostic criteria are:

1. A diastolic murmur (II(a),(2); Table I(2); VII(1),(3)).

2. Accentuation of the pulmonic second sound (VII(e); III(3),(10)).

3. Accentuation of the mitral first sound (III(2),(6)).

4. Physical, X-ray and electrocardiographic evidence of hypertrophy of the left auricle. (I(1),(2),(3); VI(b); VII(b),(e); Fig. I; XIV(a); XV(2)).

5. Physical, X-ray and electrocardiographic evidence of hypertrophy of the right ventricle. (I(1),(2),(3); VI(b),(2); Fig. I; VII(e); XIV(b); XV(3)).

6. Suggestive evidence, such as

a. Cyanosis (VII(e); X(b)).

b. Reduplication of the pulmonic second sound (III(17)).

c. Reduplication of the mitral first sound (III(18)).

d. A prominent third sound (III(4)).

e. A diastolic thrill (V(2)).

f. A systolic shock at the apex (IV).

g. Signs of pressure on the recurrent laryngeal nerve (XII(a)).

h. Signs of mitral regurgitation (XVII).

XIX. Aortic regurgitation (Fig. III) is usually of luetic or rheumatic origin (XXIX(2)), occasionally arteriosclerosis or an active infection may be the sole cause.

The diagnostic criteria are:

1. A diastolic murmur (II(b),(2),(3); Table I(3); VIII(2)).

2. A high pulse pressure (VIII(e); XIII(b); Table II(1)).

3. Physical, X-ray and electrocardiographic evidence of hypertrophy of the left ventricle (I(1),(2),(3); Fig. I; VI(a),(1); VIII(b); XIV(c); XV(4)).

4. Suggestive evidence, such as

a. A diastolic thrill (V(5); Table I(3)).

b. Signs of aneurysm (XXIX).

c. Signs of mitral or aortic stenosis (XVIII; XX).

d. Pallor.

e. Corrigan Pulse.

f. Capillary Pulse.

XX. *Aortic stenosis* (Fig. III) is almost always rheumatic (XXIX(1)), rarely arteriosclerotic. The dilated first portion of the aorta of luetic aortitis, or, less often, of hypertension may produce a relative stenosis of the aortic valve (II(f), footnote*).

The diagnostic criteria are:

1. A systolic murmur (II(a),(1),(3); Table I(4); VII(1),(2)).

2. A systolic thrill (V(2)).

3. Marked diminution or absence of the aortic second sound (III(14),(16); VII(c),(4)).

4. Low pulse pressure (VII(4); Table II(2); XIII(b),(e)).

5. Physical, X-ray and electrocardiographic evidence of hypertrophy of the left ventricle (I(1),(2),(3); VI(b),(1); Fig. I; VII(b); XIV(c); XV(4)).

6. Suggestive evidence, such as

a. Decreased intensity of the mitral first sound (III(12)).

b. Signs of aortic regurgitation (XIX).

c. Signs of mitral stenosis (XVIII).

XXI. *Pulmonic regurgitation* (Fig. III) is rare; when present it is usually functional, sometimes congenital, rarely rheumatic. When functional it is secondary to the dilatation of the pulmonary artery which accompanies extreme mitral stenosis (Graham Steele, II(f)) and, rarely, extreme obstructing lesions in the lung.

The diagnostic criteria are usually inadequate. Suggestive signs are:

1. A diastolic murmur (II(b),(2),(3); Table I(7); VIII(2)).

2. A normal pulse pressure (XIII(b)).

3. Cyanosis (VIII(c); X(c)).

4. Physical, X-ray and electrocardiographic evidence of hypertrophy of the right ventricle (I(1),(2),(3); VI(a),(2); Fig. I; VIII(b); XIV(b); XV(3)).

5. Signs of mitral stenosis of high degree (XVIII).

6. Marked emphysema.

7. Signs of left heart failure.

XXII. *Pulmonic Stenosis* (Figs. II and III) is almost always congenital, rarely rheumatic or arteriosclerotic. In either case it rarely occurs as the only lesion.

The diagnostic criteria are:

1. A systolic murmur (II(a),(1),(3); Table I(8); VII(1),(2)).

2. A systolic thrill (V(2)).

3. Marked diminution or absence of the pulmonic second sound (III(15),(16); VII(c),(4)).

4. Normal pulse pressure (XIII(b)).

5. Physical, X-ray and electrocardiographic evidence of hypertrophy of the right ventricle (I(1),(2),(3); VI(b),(2); Fig. I; VII(b); XIV(b); XV(3)).

6. Cyanosis (VII(c); IX(1); X(c)).

7. Suggestive evidence, such as

a. Diminished tricuspid first sound (III(13)).

b. Signs of other congenital anomalies (IX).

c. Clubbed fingers (IX(2)).

XXIII. *Tricuspid regurgitation* (Fig. III) from organic cause is rare, though a transient or permanent functional leak following moderate or extreme dilatation of the right ventricle (II(f)) is believed to occur commonly.

The diagnostic criteria are usually inadequate. Suggestive signs are:

1. A systolic murmur (II(b),(1); Table I(5); VIII(1)).

2. A systolic thrill (V(5); Table I(5)).

3. Cyanosis (VIII(c); X(c)).

4. Physical, X-ray and electrocardiographic evidence of hypertrophy of the right auricle (I(1),(2),(3); VI(a); Fig. I; VIII(b); XIV(a); XV(1)).

5. Physical, X-ray and electrocardiographic evidence of hypertrophy of the right ventricle (I(1),(2),(3); VI(a),(2); Fig. I; VIII(b); XIV(b); XV(3)).

6. Marked peripheral congestion with pulsations of the liver in extreme cases (VIII(c); X(c); Fig. III; XVI(1)).

7. Signs of rheumatic, mitral or pulmonic lesions (XVII; XVIII; XXI; XXIX).

XXIV. *Tricuspid stenosis* (Fig. III) is rare, when present it is usually rheumatic.

The diagnostic criteria are often inadequate. Suggestive signs are:

1. A diastolic murmur (II(a),(2); Table I(6); VII(1),(3)).

2. A diastolic thrill (V(2); Table I(6)).

3. Accentuation of the tricuspid first sound (III(2),(6); VII(5)).

4. Cyanosis (VII(c); X(c)).

5. A pulsating liver. (This sign is characteristic of tricuspid lesions.) (VII(c); Fig. III; X(c)).

6. Throbbing congested peripheral veins. (VII(c); Fig. III; X(c)).

7. Physical, X-ray and electrocardiographic evidence of hypertrophy of the right auricle. (I(1),(2),(3); VI(b); Fig. I; VII(b); XIV(a); XV(1)).

8. Signs of rheumatic, mitral and aortic lesions. (XVII—XX incl.)

XXV. *Hypertensive Heart Disease* (Fig. III) occurs with arteriosclerosis, chronic nephritis and idiopathically (Hyperpiesis) (XXVIII(3)). Many arteriosclerotics and chronic nephritics, however, do not have hypertension.

The diagnostic criteria are:

1. Accentuation of the aortic second sound (III(9)).

2. High blood pressure readings (XIII(e); Table II(3)).

3. Physical, X-ray and electrocardiographic evidence of hypertrophy of the left ventricle (I(1),(2),(3); VI(c),(1); Fig. I; XIV(c); XV(4)).

4. Physical, and X-ray evidence of enlargement and tortuosity of the aorta (I(3); XI(5); XV(6)).

5. Suggestive evidence, such as:

a. Accentuation of the mitral first sound (III(8)).

b. Electrocardiographic evidence of heart block.

c. A soft systolic murmur at the aortic area (II(c),(f); XI(6)).

d. Thickened peripheral arteries.

XXVI. *Thyroid Heart Disease* is a sequel to the thyrotoxicosis of either exophthalmic goitre or the so-called toxic adenoma.

In addition to the "eye signs," diffuse or adenomatous enlargement of the thyroid, increased basal metabolic rate, and the familiar symptomatology, the diagnostic criteria are:

1. Accentuation of the first sound at the apex (III(5)).

2. Tachycardia at rest.

3. A systolic murmur most intense at the pulmonic area (II(4),(5),(6)).

4. A systolic thrill at the pulmonic area (V(6)).

5. A heaving forceful impulse (VI(1)).

6. Physical and X-ray signs of enlargement of the left ventricle (I(1),(2),(3); VI(f),(1); Fig. I; XV(4)).

7. A high pulse pressure frequently (XIII(e); Table II(4)).

8. Hypertension frequently (Table II(4)).

9. Enlargement of the T-wave in Lead II of the electrocardiogram.

XXVII. *Congenital Lesions* (IX; XXIX(4)).

Interventricular septal defects (Fig. II) occur in varying degree. Through them the higher tension developed in left ventricular contraction is transmitted as a burden to the right ventricle.

The diagnostic criteria are:

1. A prolonged murmur and thrill beginning in systole and lasting into diastole (II(e); Table I(9); V(4)).

2. Obliteration of the second sound in the third and fourth left interspaces.

3. Physical, X-ray and electrocardiographic evidence of hypertrophy of the right ventricle (I(1),(2),(3); VI(g),(2); Fig. I; XIV(b); XV(3)).

A Patent Ductus Arteriosus (Fig. II) (IX(6)) forms a variably free communication between the aorta and the left pulmonary artery through which the high tension of the left ventricular systolic discharge into the aorta is transmitted, in part, to the pulmonary circuit.

The diagnostic criteria are:

1. A to and fro "machinery" murmur (II(e); Table I(10)).

2. A systolic and diastolic thrill (V(4)).

3. Accentuation of the pulmonic second sound (III(10)).

4. Physical, X-ray and electrocardiographic evidence of right ventricular hypertrophy (I(1),(2),(3); VI(g),(2); Fig. I; XIV(b); XV(3)).

5. Physical and X-ray evidence of dilatation of the pulmonary artery (I(3); XI(5); XV(5)).

6. Clubbed fingers (IX(2)).

Patent Foramen Ovale (Fig. II). (An interauricular septal defect) of slight degree is a frequent unforeseen finding at autopsy. Although cyanosis, clubbing of the fingers, systolic and diastolic murmurs may be present, there are no reliable diagnostic criteria.

Pulmonic stenosis (Fig. III) previously discussed.

The other rarer congenital lesions are of little interest.

XXVIII. *Aneurysm* (XI; Fig. III).

In addition to the symptoms previously mentioned the diagnostic criteria are:

1. A systolic murmur (II(c),(1),(3); XI(4)).

2. A systolic thrill (V(3)).

3. Accentuation of the aortic second sound (III(9),(11); XI(3)).

4. A diastolic shock (IV; XI(3)).
5. Pressure signs (XI(2); XII(b)).
6. Unequal pulses (XI(a)).
7. Unequal blood pressure on the two sides (XIII(a); XI(a)).
8. Physical and X-ray evidence of an enlarged expansile aorta (I(1),(2),(3); XI(1); XV(6)).
9. Suggestive evidence, such as:
 - a. Aortic regurgitation (XIX).
 - b. Syphilitic stigmata elsewhere.

XXIX. Combined Lesions:

Were it not for the too common tendency for heart lesions to be multiple, the diagnosis and prognosis of the various disorders would be much simpler. It is obvious that a logical grouping of the hypertrophies, accentuations or suppressions of sounds, impulses, effects upon adjacent structures, murmurs, thrills, blood pressure readings, X-ray and electrocardiographic criteria which are characteristic of one lesion would be made with much greater difficulty if a comparable group of phenomena, characteristic of another lesion, were superimposed.

Unfortunately the *rheumatic process*¹ commonly involves two or more valves and typically produces a stenosis and regurgitation of each of the valves involved, especially is this true of the mitral valve. *Syphilis*² frequently causes both aortic regurgitation and aneurysm. *Hypertension*,³ usually with arteriosclerosis, is often added to a rheumatic or luetic lesion. *Congenital defects*⁴ are typically multiple and are particularly prone, as are rheumatic lesions, to superimposed *acute or subacute bacterial infection*. *Goitre Heart* alone seems to be content with a single syndrome.

Comment: It is hoped that a careful consideration of the above diagrams, tables, and text will help the reader in his future tasks of assembling and interpreting those manifestations of heart disease herein considered.

It is further hoped that the mechanism by which these manifestations are produced is sufficiently well illustrated to permit the diagnosis of, at least, the commoner lesions by a process of deductive reasoning rather than from memory.

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AN ANALYSIS OF THE LITERATURE ON ACUTE INFECTIOUS MONONUCLEOSIS.

By HAROLD W. POTTER, M. D., Newport News, Va.

This condition which is becoming more common, or at least is being recognized more often, is one about which most of the standard textbooks say little or nothing. This paper is an attempt to assemble the information gleaned from the many monographs on the subject, into a single article. I hope that it may save time for the busy practitioner who may be confronted with a case and seeks information concerning the literature.

HISTORICAL.—Pfeiffer in 1889 reported a condition with fever, moderate enlargement of the superficial glands, and occasionally the deep lymphoids. He called this condition acute glandular fever. It was Turck, however, in 1907, who first reported the mononucleosis in this disease. The name acute infectious mononucleosis was given this disease by Cabot, in 1907. He regarded the disease as a distinct clinical entity and, while there is much discussion upon this subject in the monographs reviewed, the consensus of opinion is in favor of Cabot's view.

DEFINITION.—In 1920 Sprunt and Evans of Johns Hopkins defined the disease as follows: An acute febrile disease without local manifestations, except the lymphocytosis and slight enlargement of the spleen and glands, with recovery.

This definition is not entirely satisfactory. I believe that the word "infectious" should be included in the definition and that some mention should be made of the abnormal cells which are found and which, in the light of present haematological study, are diagnostic in import. The disease is an acute infectious, febrile disease, characterized by slight enlargement of the spleen and glands and the presence of a lymphocytosis, the predominating cell of which is abnormal.

ETIOLOGY.—The etiology is not known. Pfeiffer has claimed to have isolated the bacillus of influenza from the glands and blood of patients suffering from the disease. Lubinski was of the opinion that a streptococcus gained entrance through the respiratory tract and that it is the etiological factor. This he believed because of the appearance of a rash and sore throat in many cases. Coon found in 1922 a diphtheroid organism which he believed the cause. Vincent's organisms have been found in many cases but Baldrige *et al.* aptly state that the frequent appearance of these organisms only further proves that Vincent's, like pyogenic cocci and diphtheroids, are often present in the normal mouth and throat of these patients, without of necessity being etiologically associated with the disease in question.

It will be seen from these conflicting opinions that the explanation of the etiology of this condition, like that of all diseases presenting abnormal blood pictures, is most unsatisfactory.

SYNONYMS.—The disease has been called acute benign lymphoblastosis, acute lymphadenosis, acute leukemia with recovery, and acute glandular fever.

EPIDEMIOLOGY.—Epidemics of this diseases are usually house epidemics although there are reports of not a few fairly large general epidemics. There have been epidemics in England, Germany, Russia, and the United States. West reports 100 cases in New York, Baldrige *et al.* report an epidemic of thirty-two cases in Iowa. R. R. Spencer, of the U. S. Public Health Service, has reported an epidemic in Rocky Mount, N. C., in 1926. Twenty-six cases were noted. Studies made of the water supply, milk, and ice cream supply, and possible insect vectors throw no light on the mode of transmission. The mode of infection, it would seem, from the character of the epidemics described is a droplet infection from the upper respiratory tract.

SYMPTOMATOLOGY.—The disease is common in children. Most of the cases reported have been in patients between the ages of eight and eighteen. More cases have been recorded in males than in females. The youngest case reported was La Motte's whose patient was five years of age. A case which was under my own observation was forty-seven years of age.

The symptom-complex presented by this disease is not a constant one. The onset in practically all of the cases reported was character-

ized by malaise and pharyngitis. The lymphoid follicles of the pharynx show hyperplasia and are translucent in appearance. Fever is rather a constant symptom in the reports studied. It ranges from 101 to 104, and chills may intervene.

Baldrige *et al.* report sore throat in 68 per cent of their fifty-six cases. La Motte reports two cases, one of which was age five years. This is the youngest case reported. Both cases had sore throat. Butka reports five cases, all exhibiting pharyngitis, and my case, observed in Paris, had an extremely red and angry throat. Longcope and Cotrell report it as a constant finding in most cases.

Enlargement of the spleen was observed by practically all of the writers as a symptom in this condition.

The adenopathy, which is a symptom always seen, varies in extent and in the glands involved. It may involve only the cervical chain. It may, however, and frequently does involve the axillary, epitrochlears, and inguinal chains. For the most part the glands are only moderately enlarged. This adenopathy may persist for many weeks.

There are two other symptoms observed often enough to warrant mention, namely, a skin eruption and abdominal pain. W. T. Longcope, in reporting ten cases, describes, in two cases, a skin rash which exhibited itself as pinkish papules and macules resembling rose spots. There was no itching noted. Baldrige *et al.* describe a faint flush occurring in some of their series, which did not have the typical appearance of a scarlatinal rash.

Abdominal pain is reported by several authors. Longcope reports it in two cases of his series. Steinfeld and Goldberg report abdominal pain in one case of six reported. Montgomery reports it in one case which also exhibited a sore throat. Jager reports two cases with abdominal pain. McKinley reports one case of nine with this symptom.

The presence of the organisms of Vincent's angina in the mouths and throats of patients with infectious mononucleosis is also worthy of note. James Cotrell reports six cases in seven that had positive smears for Vincent's. McKinley reports four of nine cases with positive smears and Longcope three in ten. Bloedin and Houghton report positive smears in three of four cases studied. As has been noted above, these findings probably merely

illustrate that Vincents' organisms are frequently present in any condition in which a severe pharyngitis is seen, and are of no etiological import.

V. R. Mason has reported two cases in which jaundice was a marked symptom. A. J. Joynt reports two cases coexisting with mastoiditis. Both recovered. Poynton and Moncrieff report, in two cases which terminated fatally, the presence of pains in the knee, ankle, hip, wrist, and finger joints with rarefaction of these areas demonstrable by roentgenograms. These two cases also had numerous nodules in the scalp.

The most important symptom and one which is of great aid in diagnosis is the lymphocytosis and this will be considered under the heading of the study of the blood picture.

BLOOD PICTURE.—Anemia seldom if ever accompanies this condition. The red count and hemoglobin remain normal during the course of the disease. The abnormality of the blood picture is seen in a study of the white cells.

A leukocytosis appears with increase in total count ranging between 12,000 and 30,000. The increase is gradual as a rule and the return to normal is also gradual. The return to normal takes several months as a rule.

Baldrige *et al.* report fifty-six cases with the highest count at 26,950, and the lowest at 3,400. Poynton and Moncrieff, of England, report a count of 62,000, and my own case reached 60,000. For the most part, however, the counts ranged from 12,000 to 15,000 in the cases reviewed. The most striking feature of the disease is the lymphocytosis.

Cotrell states that the increase in lymphocytes in this condition consistently reached 40 per cent or more of the total leukocytes. The lymphocytic increase and the granular elements decrease.

An examination of the lymphocytes is of interest. Some men report that the preponderance is of small lymphocytes, others large. Poynton and Moncrieff report cases where the large cells were 83 per cent and the small 3 per cent. In the case I observed the small type were in greater number. Base and Hermann likewise found the small cells to be the more numerous.

An abnormal cell is found constantly in these cases which should make the diagnosis less difficult. Before discussing these abnormal cells, it should be said that the normal lymphocytes show no immaturity and stain regularly.

Base and Hermann claim the presence of many mesolymphocytes of Pappenheim.

A detailed description is given here of the abnormal cell found in the blood stream, and in the glands because of its diagnostic importance. This cell varies in size from small to large. The nucleus has a wavy appearance due to chromatin strands. Nuclei have been reported, but are certainly not common. The nucleus may be egg or horse-shoe shaped, or it may be made up of lobules. Stem cells have been described by Downing, but do not seem to have attracted other investigators. Downey and McKinley state that these cells are not immature lymphoblasts but differentiated lymphocytes. John McLean has shown that with supravital staining there was a rosette of neutral red granules in the indentation of the nucleus.

The cytoplasm of these cells is larger than that of normal lymphocytes and takes a basophilic stain or has the appearance of hyaline. The cytoplasm has no definite granules. These cells do not give the oxydase reaction. These abnormal cells comprise about 30 per cent of the total white cells, and begin to disappear with convalescence.

PATHOLOGY.—The general pathology of this condition is described by Poynton and Moncrieff in a report on two fatal cases. The portal vessels were filled with small round mononuclear cells. These cells had poorly staining cytoplasm. The spleen and glands were sites of increase in fibrous tissue. There was hyperplasia of all cells with a predominance of endothelial cells. There was no evidence of any cells of malignant character. There were no multinucleated cells. The kidneys were the site of cloudy swelling.

Baldrige *et al.* describe the examination of axillary nodes from six cases. The glands averaged 3-6 cm. and were soft and spongy. There were cells found which had lobulated nuclei and resembled the abnormal cells found in the circulation as described under the Blood Picture. These glands gave these writers the impression that they were similar to glands found in the malignant lymphomas. Small lymphoid cells were not noted by these investigators. Supravital staining proved the cells to be lymphoid in origin.

DIAGNOSIS.—The diagnosis depends on the blood picture in the main. The glandular enlargement, either localized or general, when accompanied by the proper blood picture,

makes the diagnosis fairly easy. It appears, however, that a diagnosis is not complete without the presence in the blood picture of the abnormal cells described above, namely, a cell with a large cytoplasm taking a basophilic stain, or having a hyaline appearance with no granules in the cytoplasm. A lobulated nucleus is found having neutral red granules in the indentations, and the cell is negative to the oxydase reaction.

The presence of sore throat, abdominal pain, and high temperature are supplemental factors in the diagnosis.

DIFFERENTIAL DIAGNOSIS.—The following must be differentiated:—

Acute Lymphatic Leukemia:

1. By the high count in most cases.
2. By the cell morphology as described above.

Agranulocytic Angina:

1. By the ulcerative angina.
2. Extreme leukopenia in this condition.
3. Cell morphology.

Mumps:

1. By blood picture.

In cases with abdominal pain, appendicitis must be differentiated:

1. By blood picture.

In cases with rash, scarlet fever must be differentiated:

1. By blood picture.

Hodgkin's Disease:

1. By blood picture and cell morphology.
2. By the anemia and hard glands.

Dengue:

1. By the leukopenia.
2. By the bone break pains.

Vincent's Angina:

1. By the blood picture.

PROGNOSIS.—The prognosis is excellent. Only one report among those reviewed reported death from this disease.

Poynton and Moncrieff report two deaths. The usual course is several weeks to three months and ends in recovery.

TREATMENT.—The treatment in the main is symptomatic. Many specific treatments have been tried, but little benefit resulted. Neosarsphenamine has been used, and Longcope reports recovery in one case some years ago. This case would probably have recovered without this therapy. Non-specific protein therapy has been tried to raise the glandular elements but little success has met the attempts. Until more is learned of the etiology no specific

treatment can be described. Prevention of the condition, especially in epidemics, seems difficult. Most writers believe that isolation is not practicable until the method of contagion is determined. The status of treatment, then, at present, seems to be to treat the symptoms as they arise.

This condition has one virtue that most of the diseases affecting the hemopoietic centers do not have, namely, most of the patients get well notwithstanding the lack of knowledge of the etiological factor.

SUMMARY

1. Infectious mononucleosis is an acute, febrile, infectious disease, characterized by lymphadenitis, splenomegaly, and the appearance of abnormal lymphocytes in the circulation and usually terminating in spontaneous recovery.

2. The etiological factor is unknown, but a study of the reports of epidemics leads me to believe that it spreads by droplet infection, and probably is bacterial in origin.

3. The mode of onset differs, but once the disease is established, diagnosis by means of cell morphology should not be difficult.

4. The literature seems to produce evidence that infectious mononucleosis and acute glandular fever are identical.

5. This disease occurs more commonly than we realize. Failure to have routine blood examinations done is responsible for the failures in diagnosis.

6. This disease is not confined to childhood, but may occur at any age.

7. No specific therapy is known.

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EMERGENCY CYSTOSCOPY FOR RELIEF OF URETERAL COLIC.

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Ureteral peristalsis is an uncommonly competent part of the urinary mechanism, if we judge by its self-reliance and hardiness. Indeed it seems to be self-sufficient. The stimulus that brings it about is thought, by some observers, to be myogenic, and thus originating within the musculature of the ureter itself, is deemed to be independent of other nerve centers. It is definitely known that transverse lesions of the cord may not interfere with it. Most of us have seen patients in whom there was incontinence of both urine and feces, but in whom there was no appreciable cessation of the peristaltic portage of urine down to the bladder.

This muscular pump is quite capable of adjusting itself to meet all normal demands; so the rate of its waves varies with the amount of work to be done. It idles along, when the occasion permits, and pushes lazy jets of urine into the bladder every thirty seconds or so. But, when more active duty is the order of the day, it answers the call. The spurts quicken their tempo and, at the same time, take on added force and amplitude. When the kidneys are carrying a heavy burden of elimination, we may observe copious whirls being projected at a fourteen second rate. The point is this, unless there is some serious departure from the normal, ureteral peristalsis does not fail the kidneys.

Now suppose a mischief-maker tumbles into this smoothly functioning, competent, self-sufficient mechanism. A calculus rolls out of the renal pelvis and engages in the ureter. What happens? The ureter at once attempts to rid itself of the offensive intruder and, for the time being, it does not cease striving to carry away the urine.

Intense, quickened, spasmodic peristaltic

waves result. They may be broken sharply at the point of obstruction by the calculus. However, they are picked up, or begun again, below the break, and then continue their downward way.

But above the irritating obstruction there is a different story to tell. Equally powerful, spasmodic reverse peristalsis is set up, which naturally, since the urine cannot go downward by the stone, drives this imprisoned fluid upward into the kidney pelvis again. Wislocki and O'Connor feel that the increased intrapelvic pressure, thus suddenly induced, is responsible for much of the pain of ureteral colic.

The law of physics, which governs hydrostatics, rules that this pressure may go but so high and no higher. The expansive force of the urine within the pelvis will not become greater than that of the blood pressure behind the kidney, since this organ possesses no muscular system to aid the act of secretion, but depends upon blood pressure for the osmosis of elimination. This force, owing to the muscular ruggedness of the pelvis when it is in a normal state, cannot muster enough energy to produce a vast ballooning out of the pelvis in short order like that seen in a true hydronephrosis, yet withal it is capable of inciting atrociously acute pain. Fortunately for the renal economy, it seems that a pressure assault by the urine over a long period of time is needed to develop a real hydronephrosis. Nevertheless, even a moderate degree of intrapelvic pressure may engender excruciating agony.

The kidney is immensely concerned with the plight into which it has fallen. With uncanny adaptability it sets in motion an amazing process which has no analogue in human physiology; pyelovenous back-flow takes place. The pent up urine in the kidney pelvis enters the veins in the terminal sulci of the calices and drifts back into the blood stream. This back-flow is evidently intended by nature to relieve much of the pressure distress. It is interesting to note in this connection that Hinman found that dyes, introduced into a true hydronephrotic sac, would not remain there long. Owing to this reverse flow of urine, he concludes that there may not be rank stagnation or stasis of the contents of the blocked-off pelvis in such conditions.

Thus it is, even in those cases in which there is total occlusion of the ureter, that the func-

tion of the kidney, while it may be excessively embarrassed for the time being, may not be absolutely stopped. To relax tension even more, peristalsis may cease. If the delay in removing the obstruction is not unduly protracted, the kidney, never having been entirely idle or defunct, will resume its full function, and peristalsis will begin again when the stone is passed or taken out. For this reason radical kidney surgery should never be considered in cases of ureteral calculi until the organ has had ample time to show that it cannot resume its function in a competent manner.

When we recall the wide range in the sizes and shapes of the calculi that we have seen, we realize at once that there must also be a big variation in the degree of the actual obstruction to the flow of urine through the ureter occasioned by an individual concretion. We have but to remember the pain that our patients have suffered at times in passing comparatively small calculi to know that back pressure is not the sole cause of the distress in ureteral colic. Some of these stones were so small that they could not have been responsible for much back pressure, if indeed there was any at all. Therefore trauma must be, and is, a second contributing factor in this calcareous castigation of the sensory nerves in the upper urinary tract.

For our present purpose, however, we are more vitally concerned with the ureteral calculi that are of sufficient size to engage in a narrow part of the ureter and, by so doing, be temporarily a great disability to the kidney and its tributary ureter in the matter of drainage.

There are several anatomical points of narrowing in all normal ureters. A calculus large enough to be stopped in its downward course meets one of these contracted points and impinges there. Frenzied peristalsis grinds its rough, or sharp, or rosetted borders into the delicate mucosa. Hemorrhage may result; pain of the worst type imaginable blasts the patient into groveling supplication for relief, and certainly there is an immediate edema of the contiguous and adjacent mucous membrane. This edema is a protective process on the part of nature, but, in this instance, it further complicates the difficulty of the patient by closing in the calibre of the ureter about the stone, and thus more tightly jams the tube.

The ureter is intransiently antagonistic to trauma, and the edematous reaction within the ureter at times seems to be disproportionate to the amount of injury done. What tortures have not humans suffered on account of the efforts of edema to combat trauma! The writer has had occasion to re-cystoscope patients shortly after they had experienced a strenuous dilatation of a narrowed ureteral orifice. A collar of bullous-like edema adorned the outlets and circled the small openings so tightly that the ureters, perforce, were laboring with mighty peristaltic heaves to overcome the grape-like hazards. These edematous rings unquestionably created back pressure of a painful type. The visual pathology was altogether too gross to believe otherwise. The writer unhesitatingly expresses himself to be of the opinion that such intra-ureteral swellings, following large calibre dilatations, are responsible for most of the unpleasant after-effects observed in this field of urologic endeavor.

Called to see a patient for the first time, with a newly acquired renal colic, the physician usually does the two things that have for so long constituted the recognized method of treatment; he injects an opiate to relieve pain, and instructs the patient to ingest large quantities of fluids so that the increased urinary output may serve to expedite the downward progress of the foreign body within the ureter. This form of treatment is certainly the one of choice when the stone is so small that it cannot block the ureter and produce sudden back pressure. But, *is it* the right thing to do with an arrested calculus, or with one that is of sufficient proportion to incite the reverse peristalsis that results in concomitant intrapelvic pressure? Is it wise to order the ingestion of fluids that will certainly intensify peristalsis and heighten back pressure? The writer thinks that this is not the right thing to do. Who knows at the outset of ureteral colic what may be the dimensions of the stone that is causing the trouble?

Then what is the right thing to do? Charles Mayo says, "Several years ago the surgeons removed the majority of ureteral stones surgically by the open method; now the urologist removes the majority of them." Since it is so clearly evident that the urologist is supplanting the surgeon in this field and, since he succeeds in extracting the majority of such formations without resort to open operation,

there is no object now in delaying urological intervention in order that expectant therapeutics may be tried out. Delay has been in keeping with good medicine heretofore to save cutting operations. But that day is done, as Mayo has told, and it is the proper time to inaugurate a new order of case management.

From the standpoint of the urologist, it is not beneficial to either the kidney or to the ureter to keep hands off while these two structures are in this precarious predicament. Should we do so, on the one hand we leave the kidney to re-adjust its entire functional life in a very short time, while on the other hand, we permit the ureter to struggle madly to expel the object that so viciously threatens its present and future well-being.

In the light shed by the physiological and pathological facts set forth in the early paragraphs of this article, we see that these cases are definite emergencies. Drainage of the affected kidney by means of the ureteral catheter should be instituted as quickly as may be. Should this be done, the impediment of back pressure is nicely eliminated from the complex, and then the urologist has to deal only with the ureteral phase of his problem.

Unaided by intra-ureteral manipulation, there is no logical reason to expect the passage of an arrested calculus until there has been both a conciliatory subsidence of edema about the site of arrestment and an adjustment of the ureteral calibre to the diameter of the encumbrance. Edema diminishes the lumen greatly. A shift in the position of the stone, which brings its long axis into line with that of the ureter, must take place, or else the ureter must dilate sufficiently to let it pass. This period of re-adjustment, granting that it is to take place, may be a stormy time for the patient and a disastrous wait for the kidney and the ureter.

An infection may intervene in and around the kidney pelvis which, as we know, may run the gamut of severity from that of a simple pyelitis to that of total destruction of the organ. Scar tissue is quite likely to follow a cut in the ureteral wall that gives rise to hemorrhage. Hemorrhage in some of these cases is rather severe and attests to an abrasion within the ureteral musculature that must be regarded as more than a mere trifle. Pressure necrosis is prone to occur where a stone impinges tightly upon the ureteral wall. To counteract this tissue destruction and to preserve its integrity, the ureter builds a protecting wall of fibrous

tissue in advance of the ulceration. This process may be so extensive that partial encapsulation of the stone may result. Could a stricture of the ureter possibly have a better foundation upon which to build?

The methods by which the urologist is supplanting the surgeon are simple. They consist of the dilatation of narrow places in the ureter, the changing of the axis of the calculus, and the devising of some type of down-pull upon the stone. Dilatation is very frequently done by means of one or more ureteral catheters. A change in the position of an elongated or irregular stone may re-establish drainage. Such change may be accomplished by the introduction of an ureteral catheter. Since immediate drainage may be had through the ureteral catheter, provided it can be pushed by the stone, and since drainage is the imperative desideratum in all cases, the suggestion is here made that the urologist be intrusted with the emergency care of the patient as soon as it is definitely known that there is a serious renal or ureteral colic. The following case histories are selected from a series of like nature and sketched briefly to show that the suggestion is both timely and appropriate.

Case 1.—A white woman of thirty years had been conscious of an uneasy feeling in the right kidney region for several months. At times the symptom was sharp and aching in character. On one occasion, she had noticed a tinge of blood in the urine for several voidings.

At eight o'clock in the evening she was seized with a violent attack of kidney colic. Prostration was profound, and the pain was so acute that three hypodermic injections of one-third of a grain of pantopon at short intervals failed to control it. Having had all of the opium that was advisable, and light anesthesia being contraindicated in the presence of a slight heart lesion, the patient was removed to the hospital at midnight.

Cystoscopy was done at once and a No. 6 F. ureteral catheter was introduced into the right renal pelvis. Resistance was met at the iliac crest but the catheter succeeded in detouring this point without great difficulty.

Immediately after the eye of the catheter had passed this point of resistance there was a continuous flow of urine through the tube. There was no peristaltic wave at the beginning of drainage. This showed that the urine in the pelvis was under considerable pressure. The

pain quieted quickly as the intrapelvic pressure was reduced and the paroxysms of colic soon passed away. As long as the catheter remained in place there was some discomfort, which, however, was not of the nature or intensity of colic. When the catheter had drained without intermission for several moments, a return of normal peristalsis was noted.

The catheter was left in place. An X-ray plate, taken the following morning, revealed a rounded shadow lying on a plane with the catheter at the crest of the ilium.

At the expiration of fifty-two hours a second catheter, larger than the No. 6 already in the ureter, was pushed by the stone. Thinking that this two-catheter dilatation might be sufficient to permit the stone to deliver itself, both of them were withdrawn. A few hours later it came down into the bladder and was ejected without trouble at the next urination.

From the time that the first catheter entered the renal pelvis until the passage of the stone, there was no more colic and, what is more important still, there was no further interruption to the normal peristaltic rhythm.

Case 2.—An obese white man in the late thirties was seen at home at ten A. M. A vicious attack of left renal colic had seized him without the warning of premonitory symptoms. He was removed to a hospital where the X-ray pointed out an elongated shadow of large size (orange seed) at the junction of the middle and lower thirds of the ureter.

Cystoscopy was done without delay and the tips of two No. 6 F. catheters were manipulated by the stone—one of them going up as high as the renal pelvis. A continuous jet of urine emerged from the catheters for a short time, and then rhythmic peristalsis reinstituted itself. As the pressure decreased the pain faded away.

The catheters were left in place until the following morning. They were then removed as the patient insisted upon going home, even though the stone was undelivered.

At eleven o'clock that night the patient phoned and requested a meeting at the office. The colic had returned. Upon meeting him there he himself urged cystoscopy, because he had been given so much relief by that procedure before.

When the ureter was brought into view, a decided bulge was noted in the intra-mural portion just above the orifice. A corkscrew, steel

extractor was spiralled by this tumefaction. A moderate down-pull upon the instrument succeeded in delivering the stone into the bladder. However, the force that was required to extract the calculus was great enough to show unmistakably that ureteral peristalsis, combined with urinary pressure, would have been hard driven to propel the obstacle through the narrow lower ureter. Certainly some hours or days of ureteral labor would have been needed to accomplish this end.

Case 3.—The twenty-eight-year-old wife of a lighthouse keeper came into the office in a state of intermittent left renal colic. She had been having sharp, darting pains in the kidney region for several days, but the real onset of the colic had been ten or twelve hours prior to her visit.

X-ray was negative. The urine was decidedly bloody. There was some tenderness over the kidney. The temperature and the surgical blood picture were normal.

Bloody urine could be seen emerging from the left ureteral orifice. The mechanism of peristalsis seemed to be at fault. The waves did not appear to be delivering the normal quantity of fluid, and the efflux into the bladder was drawn out and sluggish. The impression one gained was that there was some obstruction to the down-flow somewhere up in the ureter.

A point of resistance was felt well up toward the kidney, which a No. 6 F. catheter passed with a quick jump, as though the obstruction had suddenly given way before it. This catheter was immediately withdrawn in order that it might be replaced by one of larger calibre. As the tip of the catheter emerged into the bladder, it was followed by a big jet of dirty, turbid fluid which required several seconds to be completed. When the flow had subsided enough to see clearly, the base of the bladder around the orifice was covered with kidney sand.

A No. 9 F. catheter was then introduced up to the pelvis with no great difficulty. There seemed to be no urinary back pressure per catheter, and the colic was now in abeyance. Therefore, the patient was sent home to be further observed.

One hour afterwards she was seized with a sharp attack of colic, which lasted about five minutes and then completely subsided. Following this spasm there was an urgent desire

to void. In the act of micturition, a foreign body was forced through the urethra into the urinal. This proved to be a roughly cylindrical mass of calcareous matter nearly one-half inch in length and one-eighth of an inch in diameter. It was very poorly organized, being quite porous, and looked like hardened sea-foam. Upon drying it crumbled easily.

Following the passage of this phosphatic deposit, the patient had an uneventful recovery. There has been no recurrence to date.

This is the train of events that probably led up to and caused the colic and hematuria. The seam-foam mass became disengaged from the kidney and was arrested in the narrow part of the ureter immediately below the pelvis. Upon this was deposited the kidney sand which filled in the interstices of the major mass so compactly that the urinary flow was very seriously impeded. The ureteral catheters broke the jam and cleared the way for the descent of the whole.

Case 4.—A white woman of thirty-five had been troubled with a stricture of the ureter in the region of the left ovary for four years. Occasional dilatation was called for to prevent pain in the kidney on that side.

The ureteral orifice itself was small and did not take kindly to dilatation. Any dilator above the graduation of No. 9 F. engaged tightly in the opening. Invariably this patient went through several stormy days following the treatments.

On one occasion the distress, which succeeded a No. 10 F. dilatation, was so pronounced that cystoscopic examination was repeated on the following day. The lady complained bitterly of tenesmus which, as she explained the symptom, was induced by irritation in the left side of the bladder. Renal colic intensified the discomfort of the patient.

The cystoscope revealed a thick, heavy ring of bullous-like edema around the ureteral orifice. The entire area was elevated above the base of the bladder and had the appearance of an angry inflammation. The lips of the orifice were everted.

As this pathology seemed to be sufficient to constrict the ureter enough to cause back pressure, a small ureteral catheter was passed up to the kidney and the patient put to bed with the tube in-dwelling. The catheter did not lie with perfect ease in the tender, swollen ureter but the discomfort was quite mild when

compared to the acute distress that had preceded its introduction; it was nicely controlled with opiates, whereas the colic had been openly recalcitrant to analgesic authority. The catheter was removed on the next day, and the patient noticed no return of the imperative symptoms.

At a subsequent treatment of the stricture, an in-dwelling catheter was inserted at the time of dilatation, and was kept in the ureter for thirty hours. A gratifying absence of annoying after-effects was the result.

CONCLUSIONS

1. Ureteral colic is a cystoscopic emergency.
2. The earliest possible relief of intra-pelvic pressure occasioned by sudden blocking of the ureter is imperative to the well-being of the kidney.
3. Continued trauma by a calculus to any part of the ureter is conducive to stricture formation and should be obviated without delay.
4. Edema of the ureter may cause colic. A small in-dwelling catheter may lessen the discomfort associated with drastic manipulation within the ureter.

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THE NERVOUS, TIRED, AND RUN-DOWN PATIENT.

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The nervous, tired, and run-down patient is one of the most misunderstood in Medicine. Too often he is branded as neurotic and treated as such; too often given tonics and told to take a "rest cure" at some nearby resort. From Doctor to Doctor he goes, finally losing faith in the Medical Profession. Christian Science and Chiropractors ultimately draw a great number. The majority progress into definite organic disease and finally are recognized as having Tuberculosis, Cancer, Thyroid or what not. It is too infrequently realized that this group of symptoms usually is indicative of organic pathology somewhere in the body, and that the pathology can be found if a painstaking search is made. The average case is neglected usually through a lack of interest, seldom through a lack of knowledge or time.

A group of 120 cases presenting this group of symptoms has been analyzed and the results discussed in this paper. Exactly 55 per cent had been seen by other physicians and

34 out of the 55 had been branded as neurotics and sent away for a so-called "rest-cure." Fifty of the 55 had serious organic disease present, and had been given tonics and told that they were run-down. Only two had had the chest or gastrointestinal tract X-rayed. Only four had been given the benefit of a Wassermann test. Five had records of a metabolism test. These facts are given because they show how lightly these cases are regarded by the profession. They point to a lack of system in the handling and study of patients with this group of symptoms.

Anyone complaining of loss of weight, nervousness and being tired deserves a thorough and systematic study, and this study should, of course, include a good history. A Wassermann, blood study (including chemistry), urinalysis, and stool examination is a part of every complete examination. With the results from these investigations at hand, it can readily be determined if X-rays, spinal punctures, kidney function or other tests are indicated. They were found to be necessary in about 75 per cent of our cases before a conclusion could be reached. Patients are beginning to realize that they spend more time and money with several careless physicians than with one careful and painstaking doctor. With prolonged study and cooperation a diagnosis was made in 113 cases out of 120, and in but very few cases could a diagnosis be made on the first general survey. We believe that this group demands prolonged study in nearly every case.

A tabulation of the findings in 120 cases presenting symptoms of being tired, nervous, and run-down follows:

Early Thyroid Disease	20 cases or 16.5%
Chronic Appendicitis	20 cases or 16.6%
Early Tuberculosis	17 cases or 14.1%
Colitis	9 cases or 7.5%
Neurosis	7 cases or 5.8%
Anemia	7 cases or 5.8%
Encephalitis Lethargica	5 cases or 4.1%
Syphilis	5 cases or 4.1%
Unresolved Pneumonia	4 cases or 3.3%
Myxedema	4 cases or 3.3%
Infected Teeth	4 cases or 3.3%
Gall-Bladder Disease	3 cases or 2.5%
Gastric Ulcer	2 cases or 1.6%
Cerebral Arteriosclerosis	2 cases or 1.6%
Sinus Infection	2 cases or 1.6%
Uterine Fibroid	2 cases or 1.6%

Diabetes	1 case or .8%
Chorea	1
Chlorosis	1
Menopause	1
Carcinoma of the Bowel.....	1
Chronic Myocarditis	1
Post-influenzal Weakness	1

The Early Thyroid Group. Of the twenty cases included in this group, nine were under twenty years of age. All were girls. These nine presented slight enlargement of the gland, loss of weight and fine tremor besides the tired feeling, etc., although the principal symptom was the latter. In every case was the menstrual cycle abnormal. With one exception they cleared with rest, Lugol's solution and luminal or bromides. The remainder of the group consisted of older women, with no definite enlargement of the gland, but loss of weight and nervousness. In two cases the patients were going through the menopause. These two were helped by ovarian extract. Two were sub-sternal enlargements and were cured by X-ray treatment. Four were operated on with good results. In every case three or more metabolism tests were done. We do not place much confidence in one alone. Eighteen of the group of twenty improved with either medical, surgical, or X-ray treatment as the case indicated.

The Chronic Appendix Group. The cases in this group numbered twenty or 16.6 per cent. The symptoms presented were nervousness, a tired feeling, occasional indigestion with gas and being run-down. In every case physical examination consistently showed definite tenderness over the appendiceal area. Every case was studied fluoroscopically. The criteria used in this study were the emptying time, visualization, and abnormality of position, size, and motility. The normal appendix is seen coming off from the inner and posterior portion of the cecum. It is freely movable, fills regularly and empties synchronously with the cecum and ascending colon. In order of importance the conclusions from X-ray study are: (1) Definite tenderness over the appendix with visualization; (2) failure of the appendix to empty; (3) abnormality of position, mobility, and size.

If the X-ray study is properly carried out, a high degree of accuracy is possible in the diagnosis. A diseased appendix was found in

every case operated on following this method. Thirteen of the cases were operated. Even in this small series, three gastric ulcers and two diseased gall-bladders were found associated with a chronic appendix. Either a right rectus or mid-line incision was done in every case. We belong to the group that believes that the small incision has but limited usefulness. We also believe that the reason symptoms persist after the removal of a chronic appendix is because pathology is left in the abdomen. When the abdomen is opened in any chronic case or condition, every possible organ should be examined and pathology corrected if found. By this method we obtained relief from symptoms in 90 per cent of cases of chronic appendicitis. Of the seven that refused operation three improved but four continued with the symptoms.

The Tuberculosis Group. This group numbered seventeen or 14.1 per cent. Eight of the seventeen cases were found to have early incipient tuberculosis. The most prominent symptom was that of being tired and a feeling of heaviness in the legs. Every case had lost from eight to twelve pounds, and in most cases there was loss of appetite. Five had been treated for indigestion and ulcer of the stomach. Loss of appetite with weakness has, in our experience, been two of the most constant symptoms in early pulmonary tuberculosis. These alone should focus attention on the lungs, but add to them loss of weight and afternoon temperature and the diagnosis is not so difficult. In over half of these early cases X-ray pointed out the pathology before the stethoscope or other methods of examination. The average age incidence in these early cases was between thirty and forty. Of the remaining cases of this group, one had tuberculosis of the kidney and recovered following removal of the diseased organ. One had tuberculosis of the peritoneum which was arrested by exposure to the ultra-violet rays over a long period of time. The remainder were old fibroid cases that had apparently been quiescent but developed active symptoms several weeks before examination. The treatment of the incipient cases consisted of rest in bed until the temperature remained normal from three to four weeks. Mental encouragement and a moderate increase in the diet completed the treatment. Results were good in all but one case and she refused to go to bed.

The Colitis Group. This group consisted

of nine cases. The average age-incidence was forty-four. Nervousness and being run-down were the outstanding symptoms. Only two had experienced abdominal pain. Two had previously noted mucus in the stools. One case had lost forty pounds and another twenty-two. Every possible diagnostic procedure was carried out to find either a cause for the colitis or disprove the diagnosis, but no other conclusion could be reached. Mucus was found in every instance, and in the majority, occult blood. X-ray, of course, showed a highly spastic colon but no other gastrointestinal pathology. Streptococcus viridans or hemolyticus was found in six cases; Bacterium Bacillus in two. Autogenous vaccines improved four of the six cases. Only two patients obtained relief from high colonic irrigations. It is very seldom that we now resort to this method of treatment over any length of time. In every case the soft bland diet of Dr. Barker was used. Castor oil in four minim doses four times per day proved very satisfactory. The best results were obtained from improvement of the mental outlook.

The Nervous Group. This group consisted of seven cases. Before making a diagnosis of neurosis every possible study was undertaken to find organic pathology. None could be found. Spinal puncture was resorted to in three cases with negative result. Five of the seven admitted that they were sexually incompatible with their mates, but the other two denied any unhappiness at home. In two cases talks with the husband improved conditions, but in the remainder it was impossible to help either side. It may have been that in this undiagnosed group early pathology was present but could not be demonstrated. It is possible, however, that mental factors accounted for all of the symptoms.

The Encephalitis Group. This group consisted of five cases. Headache was present in addition to the other symptoms. In each case symptoms had been present for about three or four weeks. Spinal puncture showed positive findings in every instance some time during the course of the disease. We believe that it is possible to have cases with negative spinal fluid findings at any one time during the acute stages, but that in order to make a positive diagnosis they must be positive on at least one examination. Every single case has an aftermath or residual at this writing. In one there

is disturbance of vision. In another, constant headaches and in still another intervals of depression and instability of emotions. In three of the five cases the only remission from headache and other symptoms is obtained by intravenous injection of 50 c.c. of a 50 per cent solution of glucose. In fact, outside of this study many of our cases have obtained relief from similar treatment. In our experience the serum has not proven of benefit.

The Anemic Group. This group is interesting because of the fact that it contains only seven cases. In only two cases could the cause of the anemia be found. In one case it was the teeth and in another carcinoma. These seven cases are the only ones out of 120 that could have possibly been helped by a tonic of iron, arsenic, strychnine, etc. And yet almost half of the cases studied in this resume had been placed on just such treatment, believing that they were anemic or needed tonics. It is almost conclusive evidence that every time we give a tonic we are avoiding a diagnosis. A thorough study of any case is worth more than all of the tonics in the Pharmacopœia.

The Unresolved Pneumonia Group. All four cases walked into the office. They complained only of being tired or wanting a tonic to aid in getting over a cold or grippe. Histories showed that these symptoms had been present for two weeks in most cases. One had been sick only five days. A grippe or coryza had preceded the onset in three cases. Following recovery they did not seem to regain strength as they should and thought it best to seek medical advice. Two had a dry hacking cough. Physical examination showed an area of consolidation at the right base in three and the left one. X-ray confirmed these findings. Treatment consisted of rest, expectorants and elimination. Termination was in an uneventful recovery in every case.

The Group With Syphilis. Of the five cases included in this group, three had cerebrospinal lues. It is noteworthy that in these three cases the outstanding symptoms were nervousness, irritability and a dragging feeling in the lower extremities. The neurological findings were varied and it is not in order to discuss them here; suffice it to say that one had paralysis of the facial nerve, and another weakness in the left arm. Of the remaining two, one had serological findings of tabes dorsalis. The last one, the wife of one of the patients with

cerebrospinal lues, had a four plus Wassermann. Her only symptom was that of being tired, but spinal puncture, X-ray, and neurological studies were entirely negative. She cleared after a few doses of salvarsan and bismuth. The cerebrospinal cases are apparently arrested at this writing.

The Group With Sinus Infection. These, of course, cleared with appropriate treatment. No case was operated. Ten other cases of sinus infection were noted in this series but were overshadowed by other pathology. It was noted, however, that in eight cases the sinus infection cleared when associated pathology was removed.

The Myxedema Group. The results of the administration of thyroid in these four cases were striking. It is our custom in giving this drug to begin with one-tenth grain doses and slowly increase them up to the required amount. Every case showed slight improvement on one-half grain per day, but still greater improvement on one grain. In two cases it required three grains per day before satisfactory results could be obtained.

The remainder of the cases require but little discussion. All of the four with infected teeth improved within a month after their extraction. Chlorosis was improved by iron, and the two uterine fibroid cases were relieved by operation. The two cases of cerebral arteriosclerosis and one of chorea showed but little improvement under treatment.

CONCLUSIONS

1. The nervous-tired and run-down patient is regarded too lightly.
2. Organic pathology was found in 113 cases out of 120 patients presenting this group of symptoms.
3. It is poor practice to give iron, arsenic and other tonics in these cases without considerable study.
4. Incipient tuberculosis, chronic appendicitis, and early thyroid disease formed a large percentage of the cases.
5. These patients require exhaustive study before a diagnosis is possible.

1606 Twentieth Street, Northwest.

If you don't succeed the first time, try again—a hen doesn't get a bug every time she pecks.—*Selected.*

POST-PARTUM CARE OF CONFINEMENT CASES.*

By R. H. WOOLLING, M. D., Pulaski, Va.

Post-partum care of confinement cases, or care of the mother during the puerperium, means the care of the mother during that period which extends from the delivery of the ovum to the time when the return of the genitalia to the non-pregnant state is complete,—that is, as near complete as it will ever become, for the parts never return to the exact condition in which they were before pregnancy. This usually means a period of from six to eight weeks. In common usage, the puerperium means the time the patient is in bed after labor.

I once heard a physician make the statement in a paper he was presenting to a society, that any physician who allowed a perineum to be damaged to the extent of a second or third degree tear was incompetent. He would probably have said that any physician who had any morbidity per cent in the puerperium with his patient was also incompetent. We know that this is not correct and fair to physicians. The best obstetricians are at times faced with injured uteri, vaginae and perinei, and with a post-partum period not normal.

Before we discuss the care of a puerpera, let us consider just in what condition she is left, just what changes have taken place in her general condition, and in her uterus, vagina and perineum.

It is surprising how little the general condition is affected in some cases, and how much it is affected in others, apparently of the same severity.

A woman just after labor is more sensitive to irritants. A great many of them have a slight rise of temperature, soon after delivery, which should disappear in a short time. The pulse usually runs in normal cases from 60 to 78. The blood vessels immediately after labor are soft; very soon the tension is increased, and then sinks to normal or below. I am speaking, of course, of normal cases. A slow pulse with a high tension, or a gradually increasing tension, is a danger signal. It indicates a possible eclamptic condition. A very rapid pulse is also a danger signal, indicating possibly a hemorrhage, or heart pathology.

The leucocyte count, which usually runs high or higher than normal during labor, now drops.

The respiration is not much affected. The skin is more active. There is often retention of urine for the first twenty-four hours, or longer. The patient is usually thirsty, but most often cares very little for food. There is usually constipation and moderate tympany, which is in part due to a slight intestinal paresis.

As I said above, the changes in the general condition of the patient just after delivery are, in normal cases, usually slight. The local changes are always marked, and it is necessary to understand these changes in order to treat the puerpera intelligently.

Just after birth the interior of the uterus is really one large wound. The same may be said, with modification, of the vagina and perineum, because there are numerous larger or smaller lacerations, bruises and scraped surfaces. These, in the absence of infection, heal with very little inflammatory reaction. At the placental site there are immense veins containing superficial thrombi. Thrombosis occurs in the walls of the deeper veins only in pathologic cases. This condition of the interior of the uterus, of the vagina and of the perineum, explains the ease of infection and the severity of the disease if it once gains entrance.

The pelvic floor, containing muscle, fat and fascia, is infiltrated with bloody serum, full of small suggillations, even blood. The muscle fibers are torn and over-stretched. Many minute or often large scars are left, which result in atrophy and a weakened pelvic floor. If examined after four to eight weeks, the vagina and pelvic floor are relaxed and show signs of hyper-involution. I emphasize this now because I will refer to it later when I discuss the length of time a puerpera should stay in bed, and the amount of exercise she should be allowed.

CONDUCT OF THE PUERPERIUM.

After delivery of the placenta, the vulva region is cleansed of blood clots by the physician, and a sterile pad applied. An abdominal pad may be used to give the patient a sense of comfort, and to please her, not with the idea, of course, that it does any good, either to prevent hemorrhage, or to improve her figure later on. Personally, I rarely use a binder; if it is used, it is applied just snug enough to give a sense of comfort to the relaxed abdominal muscles. No douches should be given. Whatever moving is necessary should be done

*Read before the Southwestern Virginia Medical Society, at Christianburg, Va., September 23-24, 1930.

with extreme gentleness. The uterus should be kept firm, this to prevent bleeding and air embolism. Some authorities, among them DeLee, whose textbook I have used principally for reference, think it extremely important to keep the legs close together, in order to lessen the danger of air embolism.

After the bed and patient are cleaned and dressed, the room should be cleared and darkened that the patient may rest. Heat is applied to the feet. If hemorrhage has not occurred in one hour, the physician may feel reasonably comfortable.

The aseptic care of the patient during the puerperium is second in importance only to the aseptic care during labor. The vulva should be treated as an open wound, which in reality it is. The vulva pads are changed as often as they become soiled, and after each urination and defecation; also as a routine three or four times a day. After each urination and defecation the parts should be dressed,—that is, with the patient on a bedpan, a 1 to 2,000 bichloride solution or some antiseptic is poured over the parts, which are then gently touched with sterile gauze. The nurse's hands are always rendered sterile before dressing the perineum. If there is any odor, two per cent carbolic acid may be used. This care is kept up for nine of ten days. No douches are given. The patient should not touch the genitals. No internal examinations are made unless there is some positive indication for so doing. The parts are left severely alone.

DIET.—During the first twelve to eighteen hours it is probably best to give liquids; then give a soft diet for two or three days. After the bowels have acted, and after three days have elapsed, a fairly generous diet may be given, remembering that a person in bed, without exercise, cannot digest as heavy a diet as when exercising.

The bladder should always be emptied during the first twelve hours after delivery. Owing to the bruising of the neck of the bladder, spasm of the sphincter, and position of the patient, there is often difficulty in getting the patient to void. It is well to use all means possible to get the bladder to act, such as putting a pad dipped in hot sterile water over the pubis, or placing a hot fomentation over the bladder, or even letting the patient be raised up over a bedpan, before resorting to the catheter. Giving an enema will often cause the patient to void. If necessary to use

catheter, it is not necessary to re-emphasize the importance of the strictest asepsis.

Bowels should act on second or third day. It is best to give some laxative to produce the first evacuation, and castor oil is as good as any. After this an enema may be used, with an occasional mild laxative.

The breast should be looked after just as carefully and as aseptically as the vulva. It is needless to go into detail. Before the baby nurses the first time, the breast should be washed with soap and water, then with bichloride solution. Of course after that, boric acid solution is used before and after each nursing.

A breast binder is applied just tight enough to prevent sagging. The pulse and temperature are recorded at regular intervals. The pulse is a more sensitive indicator of abnormalities than the temperature, but less certain because it is so easily affected.

Any temperature above 99.5° should be considered abnormal, and its cause sought. A chill should not be considered simply a nervous manifestation because no other abnormalities can be found at the time. Watch the patient for developments. A chill usually means more or less trouble.

After pains are due to lack of tone of the uterine muscles. If very severe in a primipara, they make one suspicious of infection or retention of clots or placental fragments. If very severe, relieve them by aspirin or anytal compound; if necessary, use an opiate as rest and comfort are necessary at this time. If there is any history of mental disease in the family it is doubly important to overcome any condition of sleeplessness promptly.

The general treatment is the same as for any bed patient. No visitors should be allowed for the first two days and only near relatives for first week.

Now as to the time of getting up,—a question about which there is so much difference of opinion: In a normal puerperium, DeLee allows the mother to sit up in bed on the sixth day, to get out of bed in a chair for one hour on the ninth day, and to walk about the room by the end of the second week. So many things influence the puerperium that it is a risky thing to tell the mother that you will keep her in bed a definite time. Even apparently normal cases vary so much in the time it takes them to get back to an approximately normal condition. One mother will be as fit to get up on the ninth day as another will be on the four-

teenth. The early getting up does not possess all the advantages claimed for it; nor is it as free from danger as claimed by many obstetricians. The pelvic floor is bruised and congested, and it should not be called upon too soon to support the weight of the puerperal uterus. A puerpera should not be allowed to get up as long as the lochia is free: or as long as the pulse is particularly rapid, unless this rapidity existed prior to the delivery; or as long as she has any fever of any consequence. The conditions above referred to are often improved, however, by elevating the head of the bed, to procure better drainage.

EUGENIC STERILIZATION IN VIRGINIA.*

By J. S. DEJARNETTE, M. D., Staunton, Va.

Eugenics, or the science of generating well, has been and is practiced in all countries on the lower animals, but man seems to have neglected his own breeding and left it to the whims and fancies of the individual, so that, in consequence, the good and the bad, the weak and the strong have bred our race with little or no concerted objective; in fact, many minimize heredity and claim environment is three-fourths of the determinor of the individual, and yet these same dissenters acknowledge and bow to the laws of heredity in breeding their cattle, their hogs, and their dogs and even their garden seed. This class claims that elimination of the misfit is to be obtained by preaching, teaching and training; but while environment is of vast importance, I cannot but think we stand a much better chance to get eagles by putting eagles' eggs under hens than by putting hen's eggs under eagles. It is useless to argue against heredity when all living things proclaim it.

According to Mendel's law, environment cannot change except by extremely slow degrees. "Under nature's plan we breed from the top principally; today we breed from the bottom more rapidly." The feeble-minded woman will have four children to the college woman's one and is mentally unable to take care of her offspring properly, surrounding them with a feeble-minded atmosphere, in addition to their handicaps of a feeble-minded inheritance.

Arguing for heredity is simply insisting upon the obvious. Practically every one admits there are certain classes who should not be allowed to reproduce their kind, e. g., se-

lected cases of feeble-minded, insane, epileptics, bleeders, victims of Huntington's chorea, hereditary blindness, etc. There are many conscientious objectors to eliminating reproduction in such classes by sterilization, which method they consider brutal and contrary to the teaching of the Bible, preferring to segregate a few of these unfortunates and let the rest reproduce *ad libitum*, weakening the race and burdening society.

Our common experience tells us that many human misfits are just as much manufactured articles as plows and harrows. The first law of sterilization in the United States was passed by the legislature of Pennsylvania in 1905, but was vetoed by the Governor,—his reasons for the veto I have not been able to find. When the law was first proposed in Virginia it was laughed out of the Committee, but in 1924 she was the first State in the Union to pass a sterilization law that stood the test of the Court of Appeals of the United States. Justice Holmes, in handing down the decision of the court, said in part: "We have seen more than once that the State may call upon the best of its citizens for their lives; it would be strange indeed if we could not call upon those who already sap the strength of the State for those lesser sacrifices often not felt to be such by those concerned. In order to protect us from being swamped with incompetents, it is better for all the world, instead of waiting to execute degenerate offspring for crime or let them starve for their imbecility, if society can prevent those who are manifestly unfit for continuing their kind. The principle that sustains compulsory vaccination is broad enough to cover cutting the Fallopian tubes. Three generations of imbeciles are enough
* * *"

Once there was a very dangerous curve in a mountain road, and, traffic being heavy at this curve, terrible accidents happened frequently and many passengers were killed or wounded. A philanthropic man built a large hospital at the foot of this mountain and was soon doing a wonderful work taking care of the injured and crippled, and won for himself an enviable name as a great benefactor; but one day a wise man came and was told of the terrible accidents, saw the dangerous curve and suggested a wall built around the edge to prevent the tumble. This one ounce of prevention was worth many pounds of cure. The hospital was

*Read before the Lions Club, Altoona, Pa., April 25, 1930.

closed for lack of patients. And so, I believe, sterilization, if given a fair trial, will be the great wall built around the mountain curve and will practically close the hospitals for defectives at the foot of the mountain.

HISTORY.

Castration has been practiced from the time when the memory of man runneth not to the contrary, but eugenic sterilization really began in America in 1899 when Dr. Harry Sharp, at the Indiana State Reformatory, began to sterilize by the new method vasectomy. It seems strange vasectomy and salpingectomy should have been neglected so long.

A Pennsylvania legislature passed the first sterilization law in the United States in 1905, but it was vetoed by the Governor.

Indiana passed a law for this operation in 1907, but it was held to be unconstitutional by the court in 1920.

California has sterilized twice as many individuals as all of the rest of the States of the Union, and up to January 1, 1929, had sterilized 6,225.

At present the following twenty-two states have sterilization laws in operation: Arizona, California, Connecticut, Delaware, Idaho, Iowa, Kansas, Maine, Michigan, Minnesota, Mississippi, Montana, Nebraska, New Hampshire, North Dakota, Oregon, South Dakota, Utah, Virginia (1924, found constitutional in 1927), West Virginia, Wisconsin, and North Carolina.

STATISTICS.

The mental test of 2,000,000 men in the National Army showed 6 per cent below 70. Intelligence quotient, 120,000. Estimating 4 per cent of our population below 70. Intelligence quotient would show 4,800,000 technically feeble-minded. Only 60,000 are in institutions.

HEREDITY.

Heredity is the transmission of the parents' qualities to their offspring and must take place prior and up to birth. The law of heredity was worked out by Gregor Mendel on white and red sweet peas, and is a scientific illustration of what to expect from it.

Old John Kallikak, of New Jersey, in five generations had 480 descendants by a feeble-minded girl: 434 were feeble-minded, criminals or defectives, and only forty-six normal, and they cost the State of New Jersey over \$1,000,000.

COST

Estimating 264,000 insane and feeble-minded in the State Hospitals at \$350.00 per capita per year, we are spending annually \$92,000,000 for their care, and are allowing them to reproduce in many instances by giving them furloughs or discharging them. There are cases where three generations of one family are in the hospital at the same time. In one State Hospital in the United States a man was discharged from the hospital forty-seven times as recovered, finally dying insane in the hospital. I knew one woman to be sent to the Western State Hospital of Virginia five times with puerperal mania. This occurred many years ago and, of course, would not happen in Virginia now.

PERCENTAGE

One-half of one per cent of our people, or 600,000 have a mentality below seven years and need supervision; one per cent, or 1,200,000, have a mentality between seven and nine years and also need supervision; four per cent of our population have a mentality below .75 of the average man. Four per cent, or one in twenty-five, will be sent to a State Hospital in the United States.

SEGREGATION

The sex call is the strongest of man's instincts and to deny the defectives and the insane their sex life is a cruelty. To allow them to reproduce is also a cruelty, and an unbearable burden to the State. The children from such parentage make our great downward streams of deadbeats, tramps, criminals, dependants, paupers, etc. What chance has a feeble-minded girl out in the world either in a feeble-minded environment or with those of higher intelligence?

STERILIZATION

To my mind, sterilization is by far the kindest and best method to render the unfit fit to live on the outside, to make a living and to have a social life not very different from his more fortunate brother. He is relieved from the responsibility of children, whom he cannot properly care for, and from the dangers of infection—orchitis in the male, and salpingitis in the female, by the method of operating. The Virginia Sterilization Law, written by Senator Ambrey E. Strode and principally through the efforts of Drs. Priddy and Henry, Governor Trinkle and myself, was passed

unanimously by the Assembly in 1924. Four years before I presented a sterilization law and was laughed out of the Committee. This proves Abraham Lincoln's theory that "nothing is ever settled until it is settled right."

Up to May 21, 1930, we had sterilized 600 in Virginia. In the Western State Hospital ninety-eight: thirty-three salpingectomies, sixty vasectomies, and five X-ray. We are just getting into good working trim, and expect to sterilize 500 per year in the five hospitals.

After sterilization, we can furlough our patients much more satisfactorily, with no fear of reproduction.

A plan might be worked out to sterilize one of a union of two unfit's and so save one operation. The operation does not seem to interfere with sexual desire or gratification, and in the male it is done under local anesthesia with no more pain than the stick of the hypodermic needle. The patient does not have to go to bed after the operation, and some of our patients have driven their cars home the same day. In the male there is not even a scar four weeks after the operation and the patient does not have to stop work.

I really believe we are doing work in Virginia which will lessen our load, prevent a great deal of unhappiness, murders, crimes, drunkenness and accidents, and our State will be safer, saner and better to live in because of the passage and practice of the Sterilization Law. "If the feeble-minded are not treated properly they will surely have their revenge."

METHOD.

Tying and cutting the vas.

Ovary and cutting the Fallopian tubes.

Ovariectomy.

X-ray.

Dilating uterus and electrically cauterizing at entrance of Fallopian tubes. This method is far from being perfected.

MENDEL'S LAW*

A PLEA FOR A BETTER RACE OF MEN

Oh, why are you men so foolish—

You breeders who breed our men

Let the fools, the weaklings and crazy

Keep breeding and breeding again?

The criminal, deformed, and the misfit,

Dependent, diseased, and the rest—

As we breed the human family

The worst is as good as the best.

Go to the house of some farmer,
Look through his barns and sheds,
Look at his horses and cattle,
Even his hogs are thoroughbreds;
Then look at his stamp on his children,
Lowbrowed with the monkey jaw,
Ape handed, and silly, and foolish—
Bred true to Mendel's law.

Go to some homes in the village,
Look at the garden beds,
The cabbage, the lettuce and turnips,
Even the beets are thoroughbreds;
Then look at the many children
With hands like the monkey's paw,
Bowlegged, flatheaded, and foolish—
Bred true to Mendel's law.

This is the law of Mendel,
And often he makes it plain,
Defectives will breed defectives
And the insane breed insane.
Oh, why do we allow these people
To breed back to the monkey's nest,
To increase our country's burdens
When we should breed from the good and the best.

Oh, you wise men take up the burden,
And make this your loudest creed,
Sterilize the m'sfits promptly—
All not fit to breed.
Then our race will be strengthened and bettered,
And our men and women be blest,
Not apish, repulsive and foolish,
For we should breed from the good and the best.

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COMPLETE SEPARATION OF PLACENTA BEFORE ADVENT OF PAINS.*

By M. C. NEWTON, M. D., Narrows, Va.

Mrs. W. M. C., age thirty-eight, corpulent female, was treated by me during entire pregnancy, which was the eighth for her. She had a history of one still-birth and three infantile deaths.

The whole of her pregnancy was with complications. She had a mild nephritis and pyelitis, some myocardial decompensation, with attacks of dyspnea, edema of lower extremities and lower abdomen, and occasionally hysteria. Blood pressure was 180/115.

Her date of delivery was fixed at June 15th, or thereabouts.

On May 27, 1930, she felt and complained to her husband of tenderness over uterus on left anterior side.

At 7:00 A. M., May 28, 1930, while in kitchen laughing and joking with family she felt fluid begin to trickle, then to gush down her lower

*By Dr. J. S. DeJarnette and previously published in *Bulletin of Western State Hospital*.

*Read before the Southwestern Virginia Medical Society, at Christiansburg, Va., September 23-24, 1930.

limbs. She immediately fell to the floor and was allowed to remain there for several minutes while they sent for me.

Examination showed dilatation somewhat larger than a quarter, admitting two fingers, a dilatation that was noted sixty days before. Fetal head was in position and around head close to cervix could be felt a soft slick mass, which proved later to be a blood clot. Diagnosis of placenta praevia was made. Patient was examined five minutes later, when the diagnosis was doubted. External bleeding was stopped by packing. Pulse 120; respiration 22.

Patient had lost probably three pints of blood or more and was showing effects of it.

She was carried to hospital at 8:30 in ambulance. Small cots were expelled on way there. Put to bed at 9:00 A. M., complaining of pain in abdomen. Given coramine, 1 c.c., and caffeine sodio-benzoate, amp. 1, at this time and again at 10:00 and 10:30.

At 11:00 A. M., she was given glucose intravenously; pulse 120; respiration 28; temp. 97° ax. Digalen and caffeine were given. Nauseated and vomiting; large amount of vaginal bleeding at 12 noon.

At 1:00 P. M., she was taken to operating room. Ether anesthesia was administered. Cervix was manually dilated by Dr. W. C. Caudill, during which much dark blood exuded. Version done. A still-born male child was delivered—weight seven pounds. Placenta followed at once, accompanied by about three quarts of dark blood and clots. A pituitary ampule was given at once, also 2 c.c. of digalen and ten minims of adrenalin. Patient was in cold sweat, and was almost pulseless, extreme shock, one might say. Glucose was given at 1:45 P. M.; at 5:10, unable to count pulse. Respiration shallow. Taken to operating room for blood transfusion. Nauseated and vomiting at frequent intervals for seven days.

At 3:40 P. M., May 30th, she was given another transfusion. Continued vomiting.

On June 1st, glucose was given intravenously. Codeine was given for rest. Caffeine was administered every six or seven hours for several days, followed by digitalis by mouth until discharged from hospital.

On the fourth day she developed a severe diarrhea which continued for six days, thus considerably diminishing her chances for recovery.

Patient ran a temperature from normal to 106, with a pulse up to 150. Sepsis partially caused by pyelitis and diarrhea also complicated. Returned home on June 20th, and has continued to improve until now she is in best health for years.

Examination of placenta showed two diseased areas—one about 10 cm. in diameter, the other about 4 c.c. in diameter. Coagulated blood also showed in the villi and there was evidence of separation of some several hours.

We attribute the patient's ability to go so long between the time of placental separation and delivery to the fact that the child's head was in the cervix, plus continued contraction of the uterus, which, to an extent, controlled hemorrhage.

A REACTION FOLLOWING PHENOL-SULPHONEPHTHALEIN INJECTION.*

By W. S. L. McMANN, M. D., Richmond, Va.

The following case is reported because it appears to be unusual and possibly of some clinical significance.

E. C., was admitted to the hospital July 23, 1930, with a diagnosis of gonorrhea complicated by suppurative inguinal adenitis. The glands on each side were enucleated. The post-operative course was normal. Early on the morning of the 25th, 1 c.c. of phenolsulphonephthalein solution was given intravenously for a routine renal function test. Immediately the patient sneezed several times, his face became flushed, he was dyspneic and complained of tingling all over his body. Typical urticarial wheals appeared, following the course of the intercostal nerves as if tattooed. The patient had a marked fear of impending death. There was no reaction at the site of injection. The patient was normal in a half hour.

COMMENT.—A few hours before, the patient had complained of numbness in his feet but this is most likely irrelevant.

Nothing in the past history gave any clue as to the cause of this reaction. There had been no asthma nor any sensitiveness to any drug. He had not been taking any phenolphthalein as a laxative. Ten days before, the patient had been given 20 c.c. of a 1 per cent mercurochrome solution intravenously, and four days before, this dose had been repeated. After

*Stuart Circle Hospital, Department of Urology.

each injection, as was expected, he had a severe chill, a rapid rise of temperature and profuse perspiration. This, however, quickly subsided.

**PREGNANCY WITH COMPLICATIONS—
PREMATURE RUPTURE OF MEM-
BRANES; FRANK BREECH PRESENTA-
TION; EPISIOTOMY; VAGITUS UTERI-
NUS; HEMATOMA OF PERINEUM.**

By DANIEL H. BESSESEN, M. D., Minneapolis, Minn.

The patient, a married woman of twenty-one, living without worry or anxiety in comfortable surroundings, came to the clinic for her first pregnancy at approximately five months' gestation. She had started her menses regularly every twenty-eight days at seventeen years, without pain, or discharge. The last period was April 27, 1929.

She had been an unusually well person, having suffered none of the usual childhood diseases with the exception of measles, and aside from a fracture of the clavicle at ten years of age, had no ill health.

Physical examination showed a well developed, well nourished young woman with normal organs and a uterus enlarged with five months' fetus. This was larger by several months than the history would indicate.

On December 16, 1929, the patient, while crossing a street, stepped in a hole and fell. She boarded a street car, attended a theatrical performance, and while there noticed some fluid coming away. When she arrived home she was wet again and went directly to bed. There was still a slight showing in the morning, less than the night preceding, though there was no pain in the back, uterus, bladder or anywhere else. It was believed that the membranes had ruptured and the patient was kept in bed, resting quietly. There was a possible chance for recovery because of the apparent fullness of the uterus and the fact that the fluid diminished in amount.

At 5:00 A. M. on December 27, 1929, the patient went into labor, and was taken to Asbury Hospital at 7:30. The body of the child lay in sacrum right anterior position with the buttock directly over the pelvic outlet. The buttock was pushed up and the feet brought down when dilatation was complete. After this maneuver, the fetal heart slowed to 80 and it was thought best to extract immediately. Breech extraction was easy with the

small child and deep left episiotomy. The child's body was held over the pubes by the assistant, the perineum was depressed by the nurse. The child breathed at the perineal level, while the head was still in the vagina, one minute and fifteen seconds after the passing of the cord over the pelvic floor. Delivery was completed by three minutes and thirty seconds. Air was present in the uterus during delivery, and was expressed with the contraction of the uterus and delivery of the placenta.

Following delivery of the patient there appeared on December 30th, a large ecchymosis or hematoma—a subcutaneous hemorrhage in the right perineum. The patient's condition remained good, with slightly rising temperature each day to 100.0—100.4°. The hematoma was incised on December 31st, and much soft blood expressed. A hot compress was applied. The wound drained sanguineous fluid for a few days and then closed promptly.

The rupture of membranes usually leads to loss of the child if it occurs before viability, and to prematurity with the viable child. Occasionally, when the rupture is small and appears high in the cavity of the uterus, it may be sealed and the pregnancy continue uninterrupted. The escape of even a moderate amount of fluid will cause labor to start.

The frank breech presentation is a difficult position for the mother to deliver unaided. It is made much easier by converting it into a single or double footling when dilatation is complete. At this time, if the mother is allowed to arouse from the anesthesia, the delivery is rapid, without much danger of injury to either mother or child.

Any obstetrical case, whether operative or non-operative, should receive vaginal sterilization. This may be done with one of three drugs: mercurochrome, hexylresorcinol or merthiolate. The use of vaginal sterilization will reduce morbidity from infection at least 50 per cent, and when infection does occur, it is commonly less severe.

Vagitus uterinus—air in the uterus—does occur with rupture of the membranes or it may have been due in this case to the presence of the hand in the perineum, allowing the air free access to the child's mouth as it lay within the pelvis above the perineum. It is important as a factor of puerperal infection and constitutes another reason for utilizing vaginal sterilization in the always possibly infected

obstetrical field,—another importance of vagitus uterinus is from the medico-legal standpoint. With air in the uterus, it is possible for the child to breathe several hours or even days before delivery and then be born alive or dead.

The hematoma of the right perineum was probably due to rupture of the levator ani muscle through its fibers or through its attachment at the arcus tendineus. Other muscles or their origins or insertions may have been at fault but the most likely point of injury would be those mentioned. Lacerations of the cervix or perineum depend upon three activating principles; first, the downward force of the birth product; second, the dilating mechanism; third, the evagination of the uterine mucosa and vaginal mucosa. Any or all of these powerful forces may be responsible for tears—though the very position and direction of tears may lead to recognition of the causative mechanism.

The elevation of temperature is hard to account for. The healing of the perineum was prompt, both the episiotomy and hematoma incision closed without the appearance of infection. The blood with its absorption may cause fever. However in the presence of operative manipulation, with air in the uterus, and lacerations and hematoma the picture is extremely complicated and difficult of interpretation. The application of vaginal sterilization may be preventive in many cases of otherwise severe puerperal infection. In this case, the infection might have been much more violent had it not been for the sterilizing action of the antiseptic in the vagina.

The final outcome was quite satisfying. The mother and premature baby both convalesced splendidly with very definite progress before leaving the hospital on the twelfth day, postpartum.

Medical Arts Building.

Miscellaneous

White House Conference on Child Health and Protection.

The White House Conference, composed of over 1,200 National Leaders in Public Health, Education and Public Welfare, met in Washington, D. C., November 19-22, 1930, at the request of President Hoover to report and dis-

cuss the findings which have taken them more than a year to compile. This large group of workers, all holding responsible positions, have given their vacations, Sundays, evenings, and every spare moment, without compensation, in order to make the surveys necessary to make such a comprehensive report at this meeting. Dr. Ray Lyman Wilbur, Secretary of the Department of Interior, Chairman of the Conference, presided at all general sessions of the 3,000 delegates in attendance, and gave the final summary as follows:

Every American child has the right to the following services in its development and protection; besides the paramount right to be understood:

1. Every prospective mother should have suitable information, medical supervision during the prenatal period, competent care at confinement. Every mother should have postnatal medical supervision for herself and child.

2. Every child should receive periodical health examinations before and during the school period including adolescence, by the family physician, or the school or other public physician, and such examination by specialists and such hospital care as its special needs may require.

3. Every child should have regular dental examination and care.

4. Every child should have instruction in the schools in health and in safety from accidents, and every teacher should be trained in health programs.

5. Every child should be protected from communicable diseases to which he might be exposed at home, in school or at play, and protected from impure milk and food.

6. Every child should have proper sleeping rooms, diet, hours of sleep and play, and parents should receive expert information as to the needs of children of various ages as to these questions.

7. Every child should attend a school which has proper seating, lighting, ventilation and sanitation. For younger children, kindergartens and nursery schools should be provided to supplement home care.

8. The school should be so organized as to discover and develop the special abilities of each child, and should assist in vocational guidance, for children, like men, succeed by

the use of their strongest qualities and special interests.

9. Every child should have some form of religious, moral and character training.

10. Every child has a right to a place to play with adequate facilities therefor.

11. With the expanding domain of the community's responsibilities for children, there should be proper provision for and supervision of recreation and entertainment.

12. Every child should be protected against labor that stunts growth, either physical or mental, that limits education, that deprives children of the right of comradeship, of joy and play.

13. Every child who is blind, deaf, crippled or otherwise physically handicapped should be given expert study and corrective treatment where there is the possibility of relief, and appropriate development or training. Children with subnormal or abnormal mental conditions should receive adequate study, protection, training and care.

14. Every waif and orphan in need must be supported.

15. Every child is entitled to the feeling that he has a home. The extension of the services in the community should supplement and not supplant parents.

16. Children who habitually fail to meet normal standards of human behavior should be provided special care under the guidance of the school, the community health or welfare center or other agency for continued supervision or, if necessary, control.

17. Where the child does not have these services, due to inadequate income of the family, then such services must be provided to him by the community.

18. The rural child should have as satisfactory schooling, health protection and welfare facilities as the city child.

19. In order that these minimum protections of the health and welfare of children may be everywhere available, there should be a district, county or community organization for health education and welfare, with full-time officials, coordinating with a state-wide program which will be responsive to a nation-wide service of general information, statistics and scientific research. This should include:

(a) Trained full-time public health officials with public health nurses, sanitary inspection and laboratory workers.

(b) Available hospital beds.

(c) Full-time public welfare services for the relief and aid of children in special need from poverty or misfortune, for the protection of children from abuse, neglect, exploitation or moral hazard.

(d) The development of voluntary organization of children for purposes of instruction, health and recreation through private effort and benefaction. When possible, existing agencies should be coordinated.

It is the purpose of this Conference to establish the standards by which the efficiency of such services may be tested in the community and to develop the creation of such services. These standards are defined in many particulars in the Reports of the Committees of the Conference. The Conference recommends that the Continuing Committee to be appointed by the President from the Conference shall study points upon which agreement has not been reached, shall develop further standards, shall encourage the establishment of services for children, and report to the members of the Conference through the President.

THE MAN BEHIND THE SMILE

I don't know how he is on creeds,

I never heard him say;

But he's got a smile that fits his face

And he wears it every day.

If things go wrong he won't complain,

Just tries to see the joke;

He's always finding little ways

Of helping other folk.

He sees the good in everyone,

Their faults he never mentions;

He has a lot of confidence

In people's good intentions.

You soon forget what ails you

When you happen 'round this man,

He can cure a case of hypo

Quicker than the doctor can

No matter if the sky is gray,

You get his point of view;

And the clouds begin to scatter,

And the sun comes breaking through.

You'll know him if you meet him,

And you'll find it worth your while,

To cultivate the friendship of

The "Man Behind the Smile."

—Selected.

President's Message

The Medical Society of Virginia is both a scientific and a business organization, and both of these functions are devoted solely to the interests of the medical profession. They are entirely separate, and yet mutual in their aims and results.

The scientific sessions are open to all the members, but the business affairs of the Society are entrusted to its House of Delegates, composed of representatives chosen from each component county Society in the State, and thus, while there is only one meeting annually, yet the work of the Society between annual sessions is being administered continuously by committees, both Standing and Special, selected by the House of Delegates, and appointed annually by the President.

This arrangement of division of labor through committees gives opportunity to a large and increasing number of the members to serve the Society, and next to the Councilors, their duties are the most important, and certainly, the most representative of all of the Society's interests and activities. Believing that a better idea of the number and diversity of these various agencies and their specific work can be realized by grouping these committees, which are executive in character, they are herewith given, and the personnel of each may be seen elsewhere in this issue under the "Proceedings of Societies."

These Committees are as follows:

STANDING COMMITTEES

1. The Committee on Scientific Work and Clinics;
2. The Committee on Legislation and Public Health;
3. The Committee on Publication and Program;
4. The Medical Economics Committee;
5. The Committee on Medical Education and Hospitals;

6. The Membership Committee; and
7. The Committee on Ethics and Judiciary.

SPECIAL COMMITTEES

1. The Walter Reed Commission;
2. The Committee on Maternal Welfare;
3. The Committee for Regulation of the Training of X-ray and Clinical Laboratory Technicians;
4. The Library Committee;
5. The Committee on History of Medicine in Virginia;
6. The Child Welfare Committee;
7. Department of Clinical Education (with the Advisory Board);
8. Committee on Group Societies;
9. The Public Relations Committee, State and County;
10. Military Affairs and National Defense Committee;
11. The Committee on Tuberculosis Clinics;
12. The Committee on Mental Hygiene;
13. The Advisory Board to the Woman's Auxiliary, and
14. Committee of Ex-Presidents to Administer Trust Fund for Post-Graduate Clinical Education.

It is requested that members of the various committees cooperate with the Chairman of any designated committee, and give him the benefit of their best judgment and service.

Constructive suggestions by members of the Society as to the special work of any committee will, also, be most acceptable, and may be addressed to the Chairman of any one of the above named committees.

All of the committees have been assigned special work by the Society, and a report of the activities of each will be read at the annual meeting.

J. ALLISON HODGES, M. D., *President,*
Medical Society of Virginia.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Annual Meeting.

The Advisory Board composed of the members of the Committee on Scientific Work and Clinics and the Committee on Medical Education and Hospitals held a joint meeting with the Department of Clinical Education at the office of Miss Agnes Edwards, Secretary of the Medical Society of Virginia, in Richmond, on December 11th. All members of these Committees were present with two exceptions. Dr. J. Allison Hodges, President of the Medical Society of Virginia, and Dr. W. T. Sanger, President of the Medical College of Virginia, also attended the meeting and took active part in the discussions.

After due consideration the same members were selected to serve again in the Department of Clinical Education, Dr. I. C. Harrison, President-elect, becoming Chairman in place of Dr. Hodges. It was thought wise not to change the personnel at this time because of the desire to make use of the experience of those already in the work, to help place the undertaking on a firm and substantial basis.

Everyone present showed intense interest in the work of the Department, and the Chairman feels that with such an able corps of assistants great progress should be made during the year.

Throughout the past year Dr. Hodges as Chairman of this Department has had an article on this page in each issue of the *MEDICAL MONTHLY*, discussing the work of the Department, setting forth his plans for post-graduate medical education and appealing for cooperation to the Councilors of the State Society and to the leaders in the various Component Societies.

It will be our policy to carry out the same plan with some changes which will, I think, add to the general interest of these articles. I shall at various times during the year ask other members of the Department of Clinical Education to contribute short papers giving their views on various phases of the work, and feel sure this will add materially to the effectiveness of our whole undertaking. We may also from time to time ask specialists to dis-

cuss the importance of holding clinics in certain specified diseases. In some cases these may be teachers connected with one of our Medical Schools and in others general practitioners or specialists in private practice. I feel that this departure will meet with the approval of the membership of the State Society.

At a meeting of the House of Delegates in Norfolk a motion was adopted asking the Department of Clinical Education and the State Health Department to evolve a plan for the better handling of venereal diseases and suggesting the employment of a full-time health officer in the Venereal Disease division, as soon as possible. At the meeting of the Department of Clinical Education at Richmond on December 11th, Dr. W. T. Sanger, President of the Medical College of Virginia, presented a paper with a set of resolutions prepared by himself and Dr. Flippin, Dean of the Medical Department of the University of Virginia, bearing on better plans for the handling of prenatal and postnatal cases throughout the State. There is a like need for special efforts in other departments of medicine too numerous to mention at this time.

I wish to call special attention to this paper of Dr. Sanger's, which was heartily endorsed by the membership of the Department of Clinical Education. Every member of the Medical Society of Virginia should read this paper. The statistics contained in it bearing on infant and maternal mortality are startling enough to stir every thoughtful physician in Virginia to lend a helping hand.

The Committee suggested by Dr. Sanger and Dr. Flippin has been selected. Definite plans will be worked out by this Committee and submitted for approval to the two State medical schools and to the Department of Clinical Education. Dr. Sanger's paper follows immediately in this issue of the *VIRGINIA MEDICAL MONTHLY*. It is sincerely hoped that it may be discussed at the meetings of the various county societies. This department will be glad to have your reaction and comments on the proposed undertaking.

I. C. HARRISON, *Chairman,*
President-elect, Medical Society of Virginia.

SUGGESTED PLAN FOR HANDLING PRENATAL AND POST-NATAL CASES IN VIRGINIA.

TO THE DEPARTMENT OF CLINICAL EDUCATION,
MEDICAL SOCIETY OF VIRGINIA,
RICHMOND, VIRGINIA.
GENTLEMEN:

Last summer a member of the Medical Society of Virginia presented to our institution a detailed plan for holding prenatal and postnatal clinics in designated rural sections of the State with a view to instructing physicians in the newer procedures in this important field. He also suggested that he had requested a gift for this purpose from one of his acquaintances and asked whether we would cooperate should the Medical Society of Virginia indicate a like willingness. Now that the Society at its recent Norfolk meeting has adopted resolutions of far-reaching import in behalf of an educational program for practicing physicians, including a proposal that State funds be secured for this work to be expended under the direction of a joint committee representing the University of Virginia Medical Department and the Medical College of Virginia, I am taking the liberty of referring to the Department of Clinical Education this plan for prenatal and postnatal clinics for Virginia as submitted to our institution last summer with certain recommendations, believing that the merit of the plan justifies the consideration of this department. It should be remembered that I am only the spokesman for this project.

NEED.—In 1928 in Virginia 16,327 birth certificates were signed by midwives. In one county it is reported that only one out of five deliveries was conducted by physicians and that such conditions prevail elsewhere. It is indicated that in some rural sections, as well as in many cities and towns, little scientific care is being given to prenatal and postnatal cases for whom practicing physicians are responsible. This is thought to be largely due to the fact that many physicians graduated over twenty-five years ago and at that time almost no clinical experience in prenatal or gynecological work was given by the medical schools. Furthermore, the offices of many physicians are not equipped to make prenatal or postnatal examinations. As a result of these conditions thousands of mothers in Virginia are semi-invalids and nervous wrecks. Many are without hope of recovery and many more who do hope to be cured are spending all they possess on sedatives and quacks.

PURPOSE OF CLINICS.—The purpose of the proposed clinics is to instruct physicians in prenatal and postnatal care and to encourage mothers to see physicians before and at least once after delivery.

TYPE OF CLINIC.—It has been recommended that these clinics be held in the physicians' offices, when requested, in the morning, for one physician and in the afternoon for another whenever possible. At certain times and places clinics might be held for groups of physicians. Patients for the clinics are to be secured on the recommendation of the physician and local midwives.

PERSONNEL REQUIRED.—At least one whole-time clinician with teaching ability and a field nurse or perhaps two field nurses, will be required as a minimum. The size of the staff will necessarily depend upon the funds available.

METHOD OF PROCEDURE.—Should the Department of Clinical Education consider this plan favorably, or suggest a better plan, and if the University of Virginia and the Medical College of Virginia then approve, it is suggested that a committee of six be created, two appointed by the Department of Clinical Education of the State Society and two each by the

University of Virginia and the Medical College of Virginia. This committee will be charged with working out plans and policies of the Joint Medical Extension Service of the University of Virginia and the Medical College of Virginia, the Medical Society of Virginia cooperating. It is understood that the first and immediate function of this committee would be to complete an organization and formulate definite plans for establishing the prenatal and postnatal clinics suggested in this memorandum. It is further suggested that the committee have all of its plans and policies approved prior to recommending their execution by the Department of Clinical Education, the University of Virginia, and the Medical College of Virginia. It is assumed, moreover, that the committee mentioned above in working out its plans will wish to use to the full the Department of Clinical Education and the membership of the Medical Society of Virginia in executing any and all projects adopted for service to the State in this work of graduate education.

Such a joint medical extension service has previously been considered by the University of Virginia and the Medical College of Virginia in another connection and such a suggestion is offered, by implication at least, in paragraph four of the resolutions adopted at the Norfolk meeting of the State Society for extending the work of educating practicing physicians.

It is fully recognized by the friends of this proposal for prenatal and postnatal clinics that it must have the enthusiastic approval and active support, if put in operation, by the Medical Society of Virginia through its Department of Clinical Education. It is doubtful whether the University of Virginia or the Medical College of Virginia would be inclined to consider this proposal further unless backed at every step by the State Society. Speaking for our institution, I can say without hesitation that this is true. Furthermore, it is my personal view that whenever the joint State medical extension service is set up, on its executive committee, the State Society should be represented. Because of this conviction, I have suggested such representation in the plan outlined above.

Respectfully submitted,

W. T. SANGER,

President, Medical College of Virginia.

SCHEDULED PROGRAMS OF NORFOLK COUNTY MEDICAL SOCIETY.

Monday, January 12, 1931—SECTION ON SURGERY.

Symposium on Pathological Conditions of the Upper Abdomen:

Diagnosis and Medical Treatment. Dr. M. S. Fitchett.

X-Ray Diagnosis. Dr. L. F. Magruder.

Pathological Diagnosis. Dr. L. J. Motyca.

Operative Procedures. Dr. C. C. Smith.

Monday, January 19, 1931—SECTION ON MEDICINE:

Coronary Occlusion, with report of two cases. Dr. C. Lydon Harrell.

Electrocardiographic Results in Coronary Disease. Dr. F. C. Rinker.

Thursday, January 22, 1931—SECTION ON EYE, EAR, NOSE AND THROAT:

Report of the Results of Iridotomy in 14 Cases of Chronic Glaucoma. Dr. B. R. Kennon.

Monday, January 26, 1931—SECTION ON PEDIATRICS:

The Challenge of the Physically Defective Child. Dr. Franklin D. Wilson.

Present Status of Acute Chorea. Dr. Frank H. Redwood.

Members of the State Society are always welcome at these meetings.

Woman's Auxiliary, to the Medical Society of Va.

New Secretary of the Auxiliary.

Mrs. James K. Hall, Richmond, has accepted the position as secretary of the Woman's Auxiliary to the Medical Society of Virginia, for the next two years, to carry on the excellent work which has been done by Mrs. Joseph Bear, also of Richmond, during Mrs. F. W. Upshur's term of office as State president.

Mrs. J. Allison Hodges, Richmond, succeeded to the presidency of the State Auxiliary at the Norfolk meeting. With the acceptance by Mrs. Hall, the list of officers as published in the Auxiliary Department in the December issue of the MONTHLY, is now complete.

Report From the Annual Meeting of the National Auxiliary.

As the report presented by our delegate to the Woman's Auxiliary of the American Medical Association at its Detroit meeting has so much of interest, we take pleasure in presenting it in full in our Department for this month:

MADAM PRESIDENT AND MEMBERS OF THE WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA: I am deeply sensible of the honor bestowed upon me by our President in appointing me a Delegate from this State to the Woman's Auxiliary to the American Medical Association. It was such a delightful inspirational meeting that I wish you might all have been there.

It was the eighth annual meeting of the Woman's Auxiliary to the American Medical Association, and it was held in Detroit, June 23-26, with headquarters at the Tuller Hotel. There were 413 members present, including eighty-five Delegates. While this was the smallest in number of our national meetings, it was conceded to be the most interesting and most constructive of all.

The President, Mrs. Hoxie, Kansas City, Mo., presided. The address of welcome was made by Mrs. Elmer L. Whitney, President of the Auxiliary to the Wayne County Medical Society, who reminded us that the object of the Auxiliary is SERVICE, expressed by creating a better feeling between the layman and the profession and by working out an intensive health program.

The response was made by Mrs. John McReynolds, Dallas, Texas, ex-president of the Woman's Auxiliary to the American Medical Association, and founder of the first County Auxiliary, which was inaugurated in her State of Texas.

Mrs. McReynolds impressed upon us that every local Auxiliary should shoulder the responsibility of settling its own problems. That for its continued success it must have a Social, Philanthropic, and Educational program. She impressed upon us that the choice of officers is most important, saying that an indifferent President makes an indifferent Auxiliary. She strongly counseled the Auxiliary not

to enter into medical politics, saying that that is the rock upon which the Auxiliary can break to pieces. She said also the safeguard of the Auxiliary is its Advisory Council, composed of from three to five physicians, men who believe in the Auxiliary and who will display justice and sympathy towards it.

The Treasurer reported a bank balance of \$1,544.86. Many dues are delayed because of varying dates of fiscal years in the several States. While there was a listed membership of 12,100, but 9,995 memberships were paid up to date.

A request was made that State Treasurers write "Treasurer" under their names when they write receipt slips.

Three of the Resolutions passed had to do with finance:

RESOLVED, That all State Treasurers be instructed to pay their National dues the last day of the fiscal year of their respective State Auxiliaries.

RESOLVED, That in future, State Auxiliaries pay an initiation fee of \$5.00 in order to obtain representation at their first National Convention, thereafter paying full dues at the close of their fiscal years, as heretofore provided.

WHEREAS, The annual meeting of the Woman's Auxiliary to the American Medical Association is always a great inspiration and stimulation to those in attendance, be it resolved that the component State Auxiliaries be urged to make possible the attendance of their President or President-elect, by payment of all or part of their expenses.

The Chairman of Organization exhibited an Auxiliary book; a similar one was recommended for each of the States. It contained first a map of the State, then everything of interest pertaining to the Auxiliary in that State. In her report she showed thirty-seven States organized. She said women should be urged to join these organizations. If any one wished to join the Auxiliary and there was no Auxiliary near, she should be asked to become a member at large. She asked that before sending in reports, the Secretary's and Treasurer's report be compared, as there have often been discrepancies between the two. She asked that there might be sent in lists of names arranged alphabetically and made out properly—"Mrs. John Smith" as recorded in the American Medical Association, not "Mrs. Mary Smith." A request was made that names of officers of the last election of State Auxiliaries be sent to the Secretary of the A. M. A. She stressed answering letters promptly, especially every woman accepting office in the organization. She said "do work assigned to you even though you don't clearly see the purpose of it. Remember that a crazy quilt is a work of art."

The report of the President, Mrs. George M. Hoxie, was most inspirational. She told us that the Woman's Auxiliary must no longer organize to be organized, but it must organize only for a purpose. She urged that it be not organized in States where the State Medical Society is not interested in it.

She said that security is found in close cooperation between National Committee Chairmen and State Committee Chairmen, and between State Committee Chairmen and County Committee Chairmen. This implies no idea, she said, of National Chairmen dictating to State Chairmen or State Chairmen dictating to County Chairmen.

She requested that interesting experiments in every Auxiliary be passed on to other Auxiliaries so that finally the circulation might be complete. She reminded us that the National Council is the

clearing house of ideas, and in the National Council defects are corrected.

She spoke of help suggestions being prepared for all Chairmen, so that what they may do upon taking office would be available upon call for any one who might ask.

She earnestly stressed Education, Self-Education, Education of the public, the Study Program and the distribution of Study Envelopes to County Auxiliaries.

Regarding Education, the following resolutions were passed:

WHEREAS, The Study Envelopes have been enthusiastically commended by the Advisory Council of the A. M. A., and

WHEREAS, Those State Auxiliaries which have used them have found them of great value;

BE IT RESOLVED, That their use be continued, and that all State and County Auxiliaries be urged to appoint Study Program Chairmen, and that these Chairmen get in touch immediately with all Presidents and Presidents-elect of State and County Auxiliaries in order to secure the full advantage of their use as program material.

WHEREAS, The Auxiliary Primer issued by the Medical Society of the State of New Jersey, is the most comprehensive presentation of the aims and objectives of this organization, containing as well quotations from eminent members of both the Medical Society and the Woman's Auxiliary, regarding the need for a Woman's organization.

BE IT RESOLVED, That the wide use and distribution of the Primer be strongly recommended throughout our entire membership.

Mrs. Hoxie also urged that space be given to the Woman's Auxiliary in the Medical Journals.

The Press and Publicity Committee reported that the State Medical Journal editors showed remarkable interest in the Auxiliary by their eagerness for Auxiliary members to become familiar with Public Health Education in its latest phases in order that they may give other women's groups accurate interpretation of the views of the Medical Society on Health and Medical practice. (A doctor should be on each Board of Editors in each State.) Of the thirty-two State Medical Journals published, only eighteen carry Woman Auxiliary notes.

The President urged each State to have a Chairman of Education Program.

All Presidents and Presidents-elect pledged themselves to accept the recommendations of Mrs. E. V. DePew, Chairman of the Committee on Education Program, as follows:

I. That the Study Envelopes be continued.

II. That Study Program Chairmen contact with Presidents-elect (or new Presidents) of each county.

Then followed a discussion of Health Education Work. States which had done the following types of work discussed their methods and results:

I. SELF-EDUCATION (Education of own members).

(a) By Study Programs worked out by the State Auxiliaries for the use of County Auxiliaries.

(b) By Study Programs worked out by the individual county for its own use.

(c) By use of Study Envelopes provided by the National Auxiliary.

II. EDUCATION OF THE PUBLIC (by Auxiliary members working through other women's organizations).

(a) By Study Programs.

(b) By Educational addresses.

(c) By Educational films.

III. COOPERATION WITH STATE AND LOCAL HEALTH AGENCIES IN HEALTH EDUCATION WORK.

IV. IMPROVEMENT OF HEALTH EDUCATION IN THE PUBLIC SCHOOLS.

(a) By better education of teachers.

(b) By the increased use of Hygeia.

V. STUDENT LOAN FUNDS.

A report of the various phases of work in the Auxiliaries was given:

The Student Loan Fund of Arkansas assisted six students through medical school.

Mrs. Walter Freeman, of Pennsylvania, reported County Health Work under the direct guidance of the State Health Department, emphasizing among other things, periodic health examinations, and clean water supplies. She said the most common defect in pre-school children's work is with the teeth, diphtheria prevention, and nutrition. She suggested giving the name and address of the proper physician and nurse to those who need attention, otherwise many do not know to whom to go. Many know nothing of dentists. Persuade parents to have teeth attended to. See how you can gather up the children from the corners of the town. She told the Auxiliary that Preventive Health work does not take bread from the family of the physician.

In North Dakota the Board of Health asked for an Auxiliary.

Cooperation of the State Auxiliary with the Minnesota Public Health Association, in the fight against Tuberculosis, was reported. The Board of Health there says it could not get along without the Auxiliary.

In Missouri, Study Envelopes on Prevention of Physical Defects have been placed with 800 Parent-Teacher Associations.

In one county in Missouri a Public Health nurse, trained in Educational methods, was employed to work in the rural schools, teaching the teachers how to teach Health. The nurse found in one classroom forty pupils, with the room unventilated and the teacher with a well developed case of tuberculosis, and a boy in the room with pneumonia. The nurse had the room closed.

Warren County, Miss., reported as one of its projects a Study Course in National, State and County Health Laws and the Study Envelopes sent out by the National Auxiliary.

One county reported giving \$500.00 to the doctor's library for the purpose of having books rebound.

Mrs. Bunce, Chairman of the Committee on Press and Publicity, in her report, said that there should be printed in the Medical Journals, with the other men's committees, a list of the names of the doctors serving on the Advisory Board. She called attention to the fact that not one Journal has at present this information printed. She urged the reading of the Journals by members of the Auxiliary, that we might make the medical problems ours, and be able to discuss intelligently the medical problems in clubs, where a physician's wife should be on every board. In regard to this, the following resolution was passed:

WHEREAS, Parent-Teacher Associations, Federated Clubs, the League of Women Voters, and the Auxiliary to the American Legion and other similar organizations are influential in their various civic and educational capacities.

BE IT RESOLVED, That the Auxiliary to the American Medical Association urge upon its component State Auxiliaries the advisability of participation

through individual membership in the various activities of the aforementioned organizations, with a special view (1) to the promotion of their health programs, and (2) to the cooperation in the Public Health projects of their Boards of Health.

The excellent report of Mrs. A. B. McGlothlan, Chairman of the Committee on *Hygeia*, showed much activity on the part of that committee. She reported 7,500 paid circulation to date, with 8,500 actual circulation to date.

Hygeia is the best Health Magazine published, it being the official health organ of the American Medical Association.

A resolution was passed that the *Hygeia* Committee be instructed to leave to the discretion of local Auxiliaries the advisability of soliciting individual subscriptions, but that we continue to push *Hygeia* as an instrument of Health Education by realizing funds from benefit entertainments or otherwise and by applying those funds to the purchase of subscriptions to be presented to teachers, libraries, legislators, and other groups, and that we continue to acquaint other women's organizations, leaders of youth, superintendents of schools, etc., with the magazine.

It was suggested that articles of specific interest be marked and submitted to the leaders of these organizations.

Mrs. Hoxie said that it was time the State Auxiliaries got on the program with the Board of Health. She suggested going to the Board of Health and asking how we might be of use, instead of telling them what to do.

One of the outstanding addresses of the Convention was that of Dr. Chas. H. Mayo. He, too, emphasized the need of Public Health Education. He spoke of the opportunity afforded the Auxiliary to render valuable aid to the profession by properly presenting its aims and accomplishments. He said education depended more upon women than upon men in a community. He advocated as of greater importance, the education of children rather than of the adult. Then he said, "The only way any of us can pay for our education is by passing it on to someone else." He added, "give back to the world more than you have received from it in education . . . but Auxiliary members must first correctly inform themselves before attempting to teach others."

The General Business Meeting closed with the election of the following officers for the year 1930-1931:
President—Mrs. J. Newton Hunsberger, Norristown, Pa.

President-elect—Mrs. A. B. McGlothlan, St. Joseph, Mo.

Vice-Presidents—Mrs. Southgate Leigh, Norfolk, Va.; Mrs. Jas. W. Blake, Hopkins, Minn.; Mrs. C. W. Mrs. Jas. W. Blake, Hopkins, Minn.; Mrs. C. W. Garrison, Little Rock, Ark.; Mrs. Jas. F. Percy, Los Angeles, Cal.

Treasurer—Mrs. Fred L. Adair, Chicago, Ill. (*Re-elected*).

Recording Secretary—Mrs. A. T. McCormack, Louisville, Ky. (*Re-elected*).

Corresponding Secretary—Mrs. H. C. Podall, Norristown, Pa.

Directors for one year—Mrs. Geo. H. Hoxie, Kansas City, Mo.; Mrs. Allen M. Bunce, Atlanta, Ga.; Mrs. Chas. E. Sears, Portland, Ore.; Mrs. G. Henry Mundt, Chicago, Ill.

Directors for two years—Mrs. Basil L. Connelly,

Detroit, Mich.; Mrs. Ephriam R. Mulford, Burlington, N. J.; Mrs. Frank W. Gregor, Indianapolis, Ind. *Historian*—Mrs. S. G. Red, Houston, Tex.

Following the installation of the 1930-1931 President, a Post-Convention Board meeting was held, Mrs. Hunsberger presiding.

In telling you about the social side of the Convention, I am taking the liberty of quoting Mrs. A. T. McCormack, from her excellent and concise account of it as given in the August number of the *Kentucky Medical Journal*:

"The entertainment and social program provided wide variety, including tea parties, boat rides, sight-seeing trips, a theatre party, health programs of interpretative dancing, held in the beautiful auditorium of the New Art Museum. Outstanding perhaps, was the annual dinner of the Medical War Veterans, at which Dr. Aristides Agramonte, of Cuba, the sole surviving member of the famous Yellow Fever Trio—Carroll, Reed, Agramonte—told the dramatic story of the discovery that mosquitoes carry yellow fever. Another delightful occasion was the reception of Mrs. Henry Ford, in her rose garden at her home in Dearborn. Concluding the festivities, was the President's ball, held at the Statler Hotel."

Next year the American Medical Association and its Auxiliary will meet in Philadelphia.

Respectfully submitted,

(MRS. R. U.) GERTRUDE W. BURGESS,
*Delegate to the Woman's Auxiliary, to
the Amer. Med. Assn. from Virginia.*

Proceedings of Societies

List of Members of Standing and Special Committees of the Medical Society of Virginia.

STANDING COMMITTEES

Note: Figures after names in Standing Committees indicate length of term of office. Each year one new member is named on each standing committee by the in-coming president, for a term of three years.

Scientific Work and Clinics: Dr. C. Bruce Morton, University, *chairman* (3); Dr. J. S. Horsley, Jr., Richmond, (1); Dr. J. B. Nicholls, Catawba Sanatorium, (2).

Legislation and Public Health: Dr. A. L. Gray, Richmond, *chairman*, (2); Dr. E. G. Williams, Richmond, (1); Dr. John W. Robertson, Onancock, (3).

Publication and Program: Dr. Alex. G. Brown, Richmond, *chairman* (1); Dr. John H. Neff, University (2); Dr. R. L. Payne, Norfolk (3).

Medical Economics: Dr. John O. Boyd, Roanoke, *chairman* (1); Dr. Malcolm H. Harris, West Point (2); Dr. Ernest G. Scott, Lynchburg (3).

Medical Education and Hospitals: Dr. J. W. Preston, Roanoke, *chairman* (1); Dr. P. St. L. Moncure, Norfolk (2); Dr. W. O. Bailey, Leesburg (3).

Membership: Dr. J. A. White, Richmond, *chairman* (1); Dr. Isaac Peirce, Tazewell, (2); Dr. A. W. Hammond, Amsterdam* (3).

Ethics and Judiciary: Dr. James K. Hall, Richmond, *chairman* (1); Dr. J. Coleman Motley, Abingdon (2); Dr. Joel Crawford, Yale (3).

*Dr. Hammond was appointed to fill vacancy caused by death of Dr. C. F. Rinker.

SPECIAL COMMITTEES

Walter Reed Commission: Dr. E. C. S. Taliaferro, Norfolk, *chairman*; Drs. Clarence Porter Jones, Newport News; Greer Baughman, Richmond; H. S. Hedges, Charlottesville; James D. Clements, Ordinary.

Maternal Welfare: Dr. Greer Baughman, Richmond, *chairman*; Drs. P. W. Miles, Danville; C. B. Bowyer, Stonega; Ruth Mason, Petersburg; F. Bayard Carter, University.

Library: Dr. Stuart McGuire, Richmond, *chairman*; Drs. Frank Hancock, Norfolk; R. M. Wiley, Salem.

History of Medicine in Virginia: Dr. Wyndham B. Blanton, Richmond, *chairman*; Drs. B. R. Tucker, Richmond; F. C. Rinker, Norfolk.

Child Welfare: Dr. W. P. Jackson, Roanoke, *chairman*; Drs. Percy Harris, Scottsville; R. T. Hawks, Carson; J. H. Hiden, Pungoteague; A. T. Finch, Chase City.

For Regulation of Training of X-Ray and Clinical Laboratory Technicians: Dr. Wright Clarkson, Petersburg, *chairman*; Drs. J. T. McKinney, Roanoke; E. L. Kendig, Victoria; Charles Phillips, Richmond; Oscar Swineford, Jr., University.

Department of Clinical Education: Dr. I. C. Harrison, Danville, *chairman*; Mr. George W. Eutsler, University, executive secretary; Drs. E. G. Williams, Richmond; L. T. Royster, University; Manfred Call, Richmond; Walter B. Martin, Norfolk; C. B. Bowyer, Stonega; and its *Advisory Board*, composed of the members of the Committee on Scientific Work and Clinics and the Committee on Medical Education and Hospitals.

Group Societies: Dr. Charles R. Grandy, Norfolk, *chairman*; Drs. E. C. S. Taliaferro, Norfolk; G. R. Joyner, Suffolk.

Public Relation—State and County: Dr. G. F. Simpson, Purcellville, *chairman*; Drs. Southgate Leigh, Norfolk; Alex. F. Robertson, Jr., Staunton; Wade C. Payne, Haymarket; J. Bolling Jones, Petersburg.

Military Affairs and National Defense: Dr. W. A. Brumfield, Farmville, *chairman*; Drs. G. A. L. Kolmer, Salem; Nelson Mercer, Richmond.

Tuberculosis Clinics: Dr. C. Lydon Harrell, Norfolk, *chairman*; Drs. W. P. Gilmer, Clifton Forge; R. L. Page, Batesville; George H. Steuart, Ottoman; W. W. Wilkinson, La Crosse.

Mental Hygiene: Dr. Frank H. Redwood, Norfolk, *chairman*; Drs. James H. Royster, Richmond; A. M. Showalter, Christiansburg.

For Administering Trust Fund for Post-Graduate Clinical Education. (This to be composed of last five living ex-presidents): Drs. W. L. Harris, Norfolk; J. Shelton Horsley, Richmond; J. W. Preston, Roanoke; J. Bolling Jones, Petersburg; Charles R. Grandy, Norfolk.

Advisory Board to Woman's Auxiliary: Dr. Southgate Leigh, Norfolk, *chairman*; Drs. J. W. Preston, Roanoke; Lawrence T. Price, Richmond.

Clinical Meeting.

The South Piedmont Medical Society met in Danville, Va., November 25th, for the fifty-first stated meeting. Dr. Don Peters, President, of Lynchburg, presided. The program which follows was highly enjoyed and lasted from 3:00 P. M. until 10:00, with an hour's intermission for dinner.

The subject of the symposium was "Diseases

of the Ductless Glands." Those taking part were as follows:

"Pediatric Aspect of Diseases of the Ductless Glands"—Dr. Samuel Newman, Danville, Va.

"Medical Aspect of Diseases of the Ductless Glands"—Dr. D. P. Scott, Lynchburg, Va.

"Surgical Aspect of Diseases of the Ductless Glands"—Dr. John T. Daves, Danville, Va.

"Treatment of Hay Fever"—Dr. W. E. Jennings, Danville, Va.

"Report of Case of Coronary Thrombosis With Autopsy"—Dr. E. G. Scott, Lynchburg, Va.

"Treatment of Carcinoma of the Cervix"—Dr. William Neill, *invited guest*, Baltimore, Md.

"Infant Mortality in Lynchburg"—Mosby G. Perrow, Ph. D., and F. O. Plunkett, M. D., Lynchburg, Va.

"Prenatal Care"—Dr. Bayard Carter, *invited guest*, University of Virginia.

"Conditions for Removal of Diseased Tonsils"—Dr. James R. Gorman, Lynchburg, Va.

"Whitman's Reconstruction Operation on the Hip"—Dr. Thomas Wheeldon, *honorary member*, Richmond, Va.

"Intravenous Use of Glucose"—Dr. L. O. Crumpler, Danville, Va.

The attendance at the meeting was between seventy-five and eighty. Most of these remained throughout the evening and listened to all the papers, many taking part in these discussions. There was a large delegation of visitors from Richmond, as well as the usual number from Lynchburg, South Boston, Farmville and the counties of Pittsylvania, Charlottesville and Halifax.

The address of Dr. William Neill, of the Kelly Burnham Institute, Baltimore, on the "Treatment of Carcinoma of the Cervix" was greatly enjoyed. The Society passed a resolution thanking Dr. Neill for his instructive paper and expressed the wish that he would furnish a copy for publication in the VIRGINIA MEDICAL MONTHLY.

Preceding the meeting, at 2:00 P. M., in the rooms of the City Health Department Dr. Bayard Carter, Professor of Obstetrics, University of Virginia, held a clinic on "Prenatal Care" to which all members of the Society were invited. Dr. Carter's lecture and demonstrations were very instructive and proved one of the most attractive features of the meeting. Dr. R. W. Garnett had kindly provided for the clinic a half dozen cases in various stages of pregnancy. Dr. Carter's lecture and clinic was in connection with the Department of Clinical Education of the Medical Society of Virginia.

The wish was expressed by many of those present that Dr. Carter may be induced to

deliver this lecture and hold a similar clinic in other sections of this District.

I. C. H.

The Northern Neck Medical Association,

Composed of the counties of Northumberland, Lancaster, Richmond, and Westmoreland, met in regular semi-annual meeting at Montross, Va., October 30th, with Dr. George H. Steuart, of Ottoman, as president. After reading of the minutes, the following officers were elected for the ensuing year: President, Dr. E. T. Ames, Montross; vice-presidents, Drs. Samuel Downing, Newport News, and W. B. Richardson, Heathsville; secretary-treasurer, Dr. R. E. Booker, Lottsburg.

Instructive papers, presented by Drs. E. T. Ames, Montross; W. B. Richardson, Heathsville; M. C. Oldham, Lancaster; and Drs. T. N. Barnett and James H. Smith, both of Richmond, were freely discussed. Dr. R. O. Lyell, a former secretary of the Society but now living in Miami, Fla., was present and gave an interesting talk. In addition to the members, there were present a number of visiting doctors from Richmond, Washington, and Fredericksburg. A delightful banquet was served at Walker's Hotel at 7 P. M.

The next regular meeting will be held at Heathsville, Va., on the fourth Thursday in May, 1931.

The Lynchburg and Campbell County Medical Society,

At its annual meeting, elected the following officers for the coming year: President, Dr. Don Preston Peters; vice-president, Dr. D. P. Scott; and secretary-treasurer, Dr. Ernest G. Scott, all of Lynchburg.

During the coming year, this Society plans to have several out-of-town men address them and will also have interesting cases presented by their members.

The Post-Graduate Medical Society of Southern Virginia

Will hold its next meeting at Hopewell, Va., January 13th, in conjunction with the Department of Clinical Education of the Medical Society of Virginia. At this time there will be a symposium on "Allergy." Drs. Warren T. Vaughan, Richmond, Edward Alexander, Newport News, Meade Edmunds, Petersburg, and Oscar Swineford, Jr., University, will take part in this symposium. Mr. Edward Hawke, a medical student at the University,

is also expected to present a paper on "Angioneurotic Edema."

Dr. Joel Crawford, Yale, is president of this society, and Dr. Philip Jacobson, Petersburg, is secretary.

Richmond (Va.) Academy of Medicine.

At the annual meeting of the Academy, early in December, Dr. J. Morrison Hutcheson, was elected president for the coming year, and Dr. Mark W. Peyser was re-elected secretary-treasurer. Drs. A. S. Brinkley and Charles M. Caravati were elected vice-presidents.

At this meeting, Dr. Stewart Roberts, of Atlanta, Ga., professor of Medicine at Emory University, read a paper on "Thyroid Heart" and Dr. J. Shelton Horsley, Richmond, presented a paper on "Cancer."

The Southside Virginia Medical Association

Held its annual meeting in the new Medical Arts Building, Petersburg, Va., December 9th, under the presidency of Dr. J. A. Grizzard, of Drewryville. There was a good attendance and an interesting and instructive program was rendered. All papers read were freely discussed.

After a delightful dinner by the Petersburg doctors, Dr. J. Allison Hodges, President of the Medical Society of Virginia, by invitation, gave a very interesting talk, outlining some of the future activities proposed throughout the State, by the Department of Clinical Education.

The following officers were elected for 1931: President, Dr. Ruth Mason, Petersburg; vice-presidents, Dr. G. Richardson Joyner, Suffolk; Dr. M. H. Tredway, Emporia; Dr. Linwood Farley, Courtland; and Dr. Herbert C. Jones, Petersburg; secretary-treasurer, Dr. R. L. Raiford (re-elected), Franklin. The next meeting will be held in Hopewell on the second Tuesday in March.

The Pulaski County Academy of Medicine,

At its annual meeting held at the Pulaski Hospital, Pulaski, Va., early in December, elected Dr. D. S. Divers of that city president. Other officers elected for the ensuing term are: Dr. J. B. Millard, Draper, vice-president; Dr. R. F. Thornhill, Pulaski, treasurer; and Dr. C. E. Bowles, Pulaski, secretary.

Petersburg Medical Faculty.

Dr. Mason Romaine was elected president of the Petersburg, Va., Medical Faculty, at its meeting held early in December; Drs.

Meade Edmunds and C. T. Jones were elected vice-presidents; Dr. Wilbur M. Bowman, secretary-treasurer; and Dr. Leta White corresponding secretary.

The following committees were appointed by Dr. Romaine: *Court Medicale*, Drs. Joseph D. Osborne, L. S. Early, W. Preston Hoy, E. L. McGill, and George H. Reese; *Paper Committee*, Drs. Wright Clarkson, Herbert C. Jones and E. W. Young; *Supper Committee*, Drs. Leta White, C. W. Lynn and W. A. Reese; *Entertainment Committee for the Southside Medical Association*, Drs. Wm. B. McIlwaine, Ruth Mason, and D. D. Willcox.

The Truth About Medicine

In addition to the articles enumerated in our letter of October 24th the following have been accepted: Abbott Laboratories.

- Gold Sodium Thiosulphate—Abbott.
- Eli Lilly & Co.
- Erysipelas Antistreptococcic Serum—Lilly (Concentrated Globulin).
- Medical Arts Laboratory, Inc.
- Antirabic Vaccine, Semple Method.
- National Drug Co.
- Antipneumococcic Serum, Type I.
- Ointment Scarlet Red Biebrich 8 per cent.
- Typhoid-Paratyphoid A Vaccine.
- Parke, Davis & Co.
- Ventriculin.
- Richards Pharmacal Co., Inc.
- Richards Psyllium Seed.
- E. R. Squibb & Sons.
- Diphtheria Toxoid—Squibb, twenty 1 c.c. ampule packages.
- Diphtheria Toxoid—Squibb, two 1 c.c. ampule packages.
- Normal Horse Serum, one 50 c.c. vial package.
- Ragweed Pollen Allergen Solution—Squibb (3 vial treatment package).
- Timothy Pollen Allergen Solution—Squibb (3 vial treatment package).

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

McKesson's Vitamin Concentrate of Cod-Liver Oil.—A cod-liver oil concentrate having not less than eleven times the minimum vitamin A potency of cod-liver oil, U. S. P., and not less than eleven times the vitamin D potency of a potent cod-liver oil used as a standard. The product possesses properties similar to those of cod-liver oil so far as these depend on the fat soluble vitamin content of the latter. McKesson and Robbins, Inc., Bridgeport, Conn. (Jour. A. M. A., November 1, 1930, p. 1347.)

Maltine with Cod-Liver Oil and Iron Iodide.—This product is composed of maltine, 70 per cent, cod-liver oil, 30 per cent, and ferrous iodide, 0.44 Gm. per hundred c.c. (2 grains to each fluid ounce.) Maltine is a preparation essentially similar to extract of malt, U. S. P., but it contains 3.88 per cent of alcohol, is prepared from malted barley, oats and

wheat; its vitamin B₁ and B₂ content and its starch converting power is controlled by assay. Maltine with cod-liver oil and iron iodide contains in 100 c.c. from 23,000 to 25,000 vitamin A units as determined by the U. S. Pharmacopeia assay and its vitamin D potency is controlled by assay. Maltine Company, Brooklyn, N. Y.

Diphtheria Toxoid.—A diphtheria toxoid (New and Nonofficial Remedies, 1930, p. 364) prepared from diphtheria toxin of which the L+ dose is 0.2 c.c. or less. The toxin is treated with formaldehyde and is tested for antigenic power. The finished product is adjusted to contain in 2 c.c. enough of the toxoid for one immunization treatment. It is marketed in packages of one immunization treatment. Lederle Laboratories, Inc., Pearl River, N. Y. (Jour. A. M. A., November 15, 1930, p. 1505.)

Ampoule Sterile Solution Dextrose, U. S. P., 5 Gm., 10 c.c.—Each ampule contains dextrose, U. S. P., 5 Gm., in distilled water to make 10 c.c. E. S. Miller Laboratories, Inc., Los Angeles.

Ampoule Sterile Solution Dextrose, U. S. P., 10 Gm., 20 c.c.—Each ampule contains dextrose, U. S. P., 10 Gm., in distilled water to make 20 c.c. E. S. Miller Laboratories, Inc., Los Angeles.

Ampoule Sterile Solution Dextrose, U. S. P., 25 Gm., 50 c.c.—Each ampule contains dextrose, U. S. P., 25 Gm., in distilled water to make 50 c.c. E. S. Miller Laboratories, Inc., Los Angeles.

Dextrose (d-Glucose) Unbuffered and Without Preservative, 10 Gm., 20 c.c. Ampul.—Each ampule contains dextrose, U. S. P., 10 Gm., in distilled water to make 20 c.c. H. K. Mulford Co., Philadelphia.

Dextrose (d-Glucose) Unbuffered and Without Preservative, 25 Gm., 50 c.c. Ampul.—Each ampule contains dextrose, U. S. P., 25 Gm., in distilled water to make 50 c.c.; accompanied by an ampule of 2 c.c. of a buffer solution. H. K. Mulford Co., Philadelphia.

Dextrose (d-Glucose) Unbuffered and Without Preservative, 25 Gm., 50 c.c. Double End Vial.—Each double end vial contains dextrose, U. S. P., 25 Gm., in distilled water to make 50 c.c.; accompanied by an ampule of 2 c.c. of a buffer solution. H. K. Mulford Co., Philadelphia.

Dextrose (d-Glucose) Unbuffered and Without Preservative, 50 Gm., 100 c.c. Ampul.—Each ampule contains dextrose, U. S. P., 50 Gm., in distilled water to make 100 c.c.; accompanied by an ampule of 4 c.c. of a buffer solution. H. K. Mulford Co., Philadelphia.

Ventriculin—Desiccated, defatted, hog stomach.—It is assayed clinically by observation of the reticulocyte response, the standard being an increase of red blood cells at the rate of about one hundred thousand cells per cubic millimeter per week when the product is administered to patients suffering from pernicious anemia. Stomach tissue of animals has been shown to contain a principle capable of stimulating the bone marrow to form immature red cells in large numbers. When, during the first ten to fifteen days' treatment with ventriculin, a satisfactory rise in reticulocytes occurs, this is evidence that effective and progressive blood regeneration is taking place. Ventriculin is supplied in the form of a powder in vials containing 10 Gm. Parke, Davis & Co., Detroit. (Jour. A. M. A., November 22, 1930, p. 1589.)

PROPAGANDA FOR REFORM

Coffey-Humber Treatment for Cancer.—Recent developments in the Coffey-Humber treatment of cancer emphasize the fact that the history of investigations of new methods for the treatment of cancer is marked by the wreckage of dozens of scientific reputations, by the bodies of patients, and by bitter controversy among scientific men. Such conditions establish again the importance of provision within organized medi-

cine for careful study and judgment of new methods before they are given circulation to the medical profession or to the public. Had the proponents of the Coffey-Humber method seen fit from the first to follow established custom in the introduction of their technic and their results, had they consulted the Council on Pharmacy and Chemistry as to the proper method of introducing a new proprietary, they might have avoided all the acrimony, the criticism, and certainly all the notoriety that has been their lot. (Jour. A. M. A., November 1, 1930, p. 1349.)

Nonvolatile Substances as Anesthetics.—The Council on Pharmacy and Chemistry has accepted a barbiturate derivative for oral and rectal use as a preliminary to surgical anesthesia. Experimentally this product has also been administered intravenously but such use is far from safe and the manufacturer is not marketing the product for intravenous use. Now the Council publishes a preliminary report on Avertin, which substance has been proposed not only for initiating anesthesia, but also as the chief means of inducing unconsciousness, to be supplemented when necessary by a small amount of an inhalation or local anesthetic. The Council concludes that Avertin may prove valuable as a means of initiating narcosis, but that it is not proved to be a safe agent for complete narcosis, either by itself or combined with a volatile anesthetic. These two products illustrate a modern tendency in anesthetics. A paper by Lendle seems to show that neither Avertin nor the barbiturate derivative "Pernoc-ton" is a satisfactory solution of the problem. The products so far proposed for so-called basal anesthesia are hypnotics or sedatives and should be used as such. They cannot be safely used for complete anesthesia and can be safely used in combination with other agents for the production of complete anesthesia only by those thoroughly experienced in the administration of anesthetics and closely familiar with the studies of the use of nonvolatile agents for anesthesia. Thus far their intravenous use must be considered unsafe. (Jour. A. M. A., November 8, 1930, p. 1430.)

Nature of the Substance in Liver Active in Pernicious Anemia.—The search for the "active principle" which renders liver potent in the treatment of pernicious anemia has resulted in the isolation of an active crystalline salt demonstrated to be clinically potent in pernicious anemia. It is a compound of beta-hydroxy-glutamic acid and hydroxyproline. Both of these substances possess the characters of protein derivatives; the mode of their linkage remains to be ascertained. (Jour. A. M. A., November 15, 1930, p. 1509.)

Book Announcements

Industrial Accidents to Men and Women. By EMILY C. BROWN. Bulletin of the Woman's Bureau, No. 81, U. S. Department of Labor. U. S. Government Printing Office. 1930. For sale by the Superintendent of Documents, Washington, D. C. Price, 15 cents.

Every year industrial accidents in the United States levy an appalling toll on wage earners and on industry. Through this Bulletin, the Woman's Bureau discusses this subject with a compilation of data from State reports, by sex, from 1920 to 1927, with emphasis laid on the importance of separate accident statistics for men and women. Only twenty-one states

published any accident figures by sex, during the period studied, and only seven of these published a series through the eight years. Many interesting facts are brought out in this report.

Forty-Sixth Annual Report of the Bureau of American Ethnology. To the Secretary of the Smithsonian Institution. 1928-1929. United States Government Printing Office. Washington. 1930. 654 pages. Illustrated. For sale by the Superintendent of Documents, Washington, D. C. Price, \$1.90. Paper.

Methods and Problems of Medical Education. Eighteenth Series. The Rockefeller Foundation. New York. 1930. 329 pages. Illustrated. Paper.

Operative Gynecology. By HARRY STURGEON CROSSEN, M. D., F. A. C. S., Professor of Clinical Gynecology, Washington University School of Medicine and Gynecologist in Chief to the Barnes Hospital and the Washington University Dispensary, etc., and ROBERT JAMES CROSSEN, M. D., Instructor in Clinical Gynecology and Obstetrics, George Washington University School of Medicine; Assistant Gynecologist and Obstetrician to the Barnes Hospital and the St. Louis Maternity Hospital. Fourth Edition. St. Louis. The C. V. Mosby Company. 1930. Octavo of 1,078 pages. Twelve hundred forty-six illustrations and two color plates. Cloth. Price, \$15.00.

Medical Jurisprudence. A Statement of the Law of Forensic Medicine. By ELMER D. BROTHERS, B. S., LL. B., Member of the Chicago Bar; Lecturer Emeritus on Jurisprudence in the Medical and Dental Departments of the University of Illinois and Lecturer on Medical and Dental Jurisprudence in John Marshall Law School and on Historical Development of the Federal Constitution. Third Edition. St. Louis. The C. V. Mosby Company. 1930. Octavo of 309 Pages. Cloth. Price, \$3.50.

Physical Diagnosis. By WARREN P. ELMER, B. S., M. D., Associate Professor of Clinical Medicine, Washington University, School of Medicine; Assistant Physician to Barnes Hospital, etc. And W. D. ROSE, M. D., Late Associate Professor of Medicine in the University of Arkansas. St. Louis. The C. V. Mosby Company. 1930. Octavo of 903 pages. With three hundred thirty-seven illustrations. Cloth. Price, \$10.00.

A Manual of Normal Physical Signs. By WYNDHAM B. BLANTON, B. A., M. A., M. D., Assistant Professor in Medicine, Medical College of Virginia. Second Edition. St. Louis. The C. V. Mosby Company. 1930. 12mo. of 246 pages. Illustrated. Cloth. Price, \$3.00.

A Compend on Bacteriology. Including Pathogenic Protozoa. By ROBERT L. PITFIELD, M. D., Attending Physician, Germantown Hospital, Philadelphia. And HOWARD W. SCHAFFER, M. D., Pathologist to the Memorial Hospital, Philadelphia; assistant in Dermatological Research, University of Pennsylvania. Fifth Edition. Philadelphia. P. Blakiston's Son & Co., Inc. 12mo. of 317 pages. With 4 plates and 82 other illustrations. Cloth. Price, \$2.00 net.

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Editorial

Keeping-in-Touch With the Clinical Pathologist.

Some one has recently asked the question: what is a clinical pathologist? It has been answered by saying that a clinical pathologist is a physician who devotes all or a major portion of his time to diagnosis of disease by laboratory methods.

More and more practitioners need to keep in touch with the clinical pathologist. This is not to affirm, however, that diagnosis must be left to the laboratory. Much to the contrary is the fact. One of the great needs of the day is for the working clinician in the field to cultivate his powers of observation and of memory in order to keep alive the powers of discernment at the bedside. One of the urgent needs, to repeat, is for the doctor in general practice to conduct for himself a school of clinical study on the cases that come to his hands each day. Let the practitioner of to-day ponder and study gross and clinical signs of disease as it presents itself to him daily in his work. Let him take his cases home with him every night and in his library among his books go over the anatomy and pathology and physiology that may be involved. Let him read the history of the disease; let him trace its evolution through the decades and years of the past. Let him return to the bedside and study anew the symptoms and the physical signs. Let him acquaint himself with the prognosis and the statistical experience of authorized writers on the subject. And, withal, a survey of treatment of such cases may

be wisely studied. In other words, let the practitioner return to his books and his library with his physical findings and then return to the patient and search for more. Let the practitioner use his stethoscope, his hands, his eyes, his ears, his watch, and his "common sense" in his self-improvement as he endeavors to diagnose disease and treat his patients. And finally, let the busy and hurried practitioner take time to get and record an accurate story of the course of events in the sickness or illness under study. The writing of the history is in itself a source of self-culture in the art of medical efficiency.

In advocating keeping in touch with the clinical pathologist, then, one should not let up in any sense a daily effort at self-improvement at the bedside in the study of clinical medicine—quite the contrary.

But the clinical pathologist in the laboratory has much to offer that is beyond the domain of clinical observation. The clinical pathologist is a histologist and a microscopist, having knowledge and technique in serology, in bacteriology and pathology. All of these scientific fields of knowledge, under certain conditions and experiences, may be employed in the development of diagnosis and treatment of disease. In the capacity of a consultant, or referee, in the position of adviser, or in the domain of adviser in the treatment, the laboratory worker may be employed. Laboratory methods of study in disease are frequently required in practice of medicine. One may consult the pathologist regarding new trends of disease in order to keep an up-to-date perspective on the problems of daily practice. The literature of the laboratory worker and the current reading of the clinical pathologist may enable the practitioner to get from the laboratory world a point of view that may be otherwise closed to him. Every practitioner, in order to carry on his work with any degree of satisfaction and responsibility should have more or less a touch with a laboratory and clinical pathologist.

Medicine can advance to higher levels of efficiency only as practitioners the country-over, and through the years, keep alive a large mental grasp of disease in the light of research and newer knowledge. This mental grasp of problems of disease cannot be gotten with a dull mind but can best be obtained by

persistent post-graduate study and by keeping the mind alive with the trends of medical progress. An appreciation of the pathology with which physicians have to deal can only come in its best form when the mind of the practitioner is keenly alive as a result of wholesome and regular study of the fundamentals of medicine. Much that practitioners mulled through during the over-filled four years at the medical school, which may have been ten to fifteen or twenty years in the past, has become largely a dimmed memory. This is only a reasonable condition. It is known to be beyond the powers of human memory to store away in any elaborate detail the thousand-fold facts packed into the course of medical study while at medical college.

In contact with an active clinical laboratorist, a judicious selection of attendance upon medical society sessions; hours spent alone in one's library with his own clinical cases, records and histories, laid-down by the side of a review of the disease in medical texts and in accumulated files of current medical literature, offer the graduate—the medical practitioner—a good working plan for the conduct of practice of medicine.

Cardio-Vascular Syphilis.

At no point in the anatomy of the human does the spirochaeta pallida strike and wreak destructive pathology with a more certain and death-dealing effect than in the great heart outlet: the aorta. In cerebrospinal syphilis, it is true, dreadful and lamentable symptomatology occurs. Paresis drags its course through years of madness and paralytic life. The brain and spinal cord under the sinuous inroads of the spirochaeta pallida misbehave and undergo destructive changes. In the aortic valves-zone and the ascending aorta destructive changes break down the heart.

It is hardly worth while to make suggestions of comparative importance between the lesions of syphilis in the brain, spinal cord and those of the heart and the aorta. It is probably more to the point to emphasize that lesions of this nature in the heart and aorta should rank with lesions of the brain and spinal cord in importance as a disease-state, worthy of close and accurate study.

Every practitioner of experience in all probability recalls in practice and in hospital observations the lamentable and deadly display

of symptomatology in cardio-vascular syphilis. It is well to observe that these symptoms may be in rare instances found in the early period of syphilis but it is usually the case that symptoms show clinically some ten to twenty years after the primary lesions of the disease. Observers remember what these symptoms are. Usually a complaint of dyspnoea or precordial pain or both in the man of middle life, associated with physical signs of aortic regurgitation, or other aortic defect, make a strong suggestion of syphilis of the heart and aorta. One must not forget also a group of syphilitics in whom aortic lesions are elicited on physical examination without other signs of the disease. Then there is the group with aneurysmal signs or dilatation of the aorta with signs of dyspnoea and pain. Practitioners naturally scout around, in the presence of an aortic regurgitation, for a history of the primary infection. One looks about in the general body for confirmatory evidences of syphilis elsewhere. One leans upon the Wassermann test or even one may not be sure and turn to specific or mixed treatment for final diagnostic decision.

Coombs* has recently called attention to this subject as it is related to general practice and comments upon the pathology in an interesting manner. As pointed out, the important lesion is that of aortitis. The process, he states, proceeds from without inwards. Infiltration, beginning in the peri-aortic connective tissue is characterized by massing of cells, mostly lymphocytes, filling lymph channels and piling up in dense layers, lining the outer aspect of the aortic wall. He observes that through this layer the vaso-vasorum passes. The walls of these small vessels swell, tending to close the channels. Lymphocytes invest and surround them as they penetrate the aortic medial coat. In the media there collect lymphocytes between laminae of elastic tissue. Later the laminae break down. Large spaces form within the aortic wall which become potential beginnings of the aneurysm. But beyond, the intima is thickened and hypertrophied. Now, this inflammatory invasion of the aortic wall spreads to the heart and is there checked; owing to the distribution of the lymph channels there. But in this sweeping around the root of the aorta, the spiro-

*British Medical Journal, November 29, 1930, page 893.

chaeta pallida lays its ominous pathology about the mouths of the coronary arteries and the commissural attachments, says the author, of the aortic semilunar cusps. Slowly but steadily the orifices of the coronaries fill with inflammatory infiltration. The aortic cusps contract and shrink under the deadly grasp of the increasing pathology. Soon the heart emits its sign of pain and dyspnoea.

Arteriosclerosis in Diabetes.

After all, in long-standing or chronic disease processes, the status of arteries plays an important part. In diabetes mellitus, Joslin has recently directed attention to this problem. As in all of Joslin's* studies of his own experiences in a large group of diabetics, his report is full of interesting observations bearing on the point under consideration. Arteriosclerosis takes a leading place as a cause of death in the diabetic, says Joslin. Every other diabetic, he notes, now dies of arteriosclerosis and he suggests that the percentage is rapidly increasing. Death by coma has heretofore stood out as the chief menace of the diabetic. Better control of this exigency of the diabetic life, probably, explains the increase of arterial disease as the cause of death.

Joslin cites his experience. His investigation of arteriosclerosis in diabetes rests upon his study of "all true diabetic cases" seen by him from 1894 to 1930, of which he has information in 97 per cent of the cases. With the aid of the Statistical Department of the Metropolitan Life Insurance Company, he has arranged the material.

As suggested, the fall in death from coma probably explains the increase in percentage of deaths by arteriosclerosis. In what he calls the "Naunyn Era" coma was the cause of death in 61 per cent of 781 cases of diabetes and in this era arteriosclerosis was the cause of death in 15 per cent; in the "Allen Era," arteriosclerosis was the cause of death in 26 per cent of cases; and in the first half of the insulin or "Banting Era," it was the cause of death in 41 per cent of cases; and in the last half (past four years) it was the cause of death in 50 per cent.

In escape from death by coma, in more accurate dietary management, in the use of insulin in diabetes, rest other explanations of the increase in the percentage of death by dis-

eases of the arterial wall. In other words, the diabetic's life-line has been increased; he grows older. While it is true that as a rarity arteriosclerosis appears in the young, the condition connotes ageing and length of life in the main. It appears, therefore, that a consideration of the problem of preventing or delaying the advance of arterial disease in the diabetic is one which deserves investigation and study by the internist and general practitioner. Let us follow Joslin's line of study. The common sites of arteriosclerotic changes as shown by his study of all fatal cases showed that the most common location was in vessels of the heart, being 19.1 per cent of the total mortality; the next place in order of frequency was the vessels of the legs, being 13.2 per cent as shown by deaths from gangrene; the next site was in the brain arteries, being 7.2 per cent; and the least frequent vessels showing arteriosclerotic change causing death of diabetics, was in the kidney, being 4.7 per cent.

Practitioners may think, in the light of the foregoing findings, that diabetics, in so far as arteriosclerosis is concerned, show danger-signs, chiefly in the heart, lower extremities, and brain, and these changes occur in the given sites in point of frequency in the order given. It seemed obvious that the duration of diabetes increases the incidence of the arteriosclerosis. It was noted that there appeared to be a higher rate of incidence in the Jewish race. He found that arteriosclerosis occurred in youth and the early middle-aged. Even in children, arteriosclerosis was observed as a complication.

It appears, then, that diabetics who escape coma are threatened by arteriosclerosis which localizes in heart vessels, vessels of the feet and legs and the vessels of the brain. Thus management of diabetes must advance to a great refinement, with a view to a more careful study of the metabolites of the blood of the diabetic as the patient goes on with insulin treatment.

News Notes

Probability of Mental Disease.

The New York State Department of Health has worked out figures, by careful statistical methods, giving the probability of mental disease for the population of the State of New

*Joslin. *Annals of Internal Medicine*, July, 1930, page 29.

York. New York has a population of over 12,600,000. Of this number, about 560,000 will probably develop severe mental disease and become patients in hospitals for the insane during some period of their lives. Of the people now living in New York City over 300,000 will need hospital treatment for mental ills. In the State as a whole, 45 of every 1,000 children born will probably be afflicted with mental disease at some period of life. It has also been found that the rate of expectancy of mental disease is higher among men than among women; higher among city people than among country people and higher among the foreign-born than among the native population.

If interested in the prevention of mental disease, write to the State Department of Mental Hygiene, State Office Building, Albany, N. Y., and information on the subject will be sent to you.

Medical College of Virginia News.

Dr. Stewart R. Roberts, professor Clinical Medicine at Emory University, School of Medicine, Atlanta, Ga., was a visitor at the Medical College of Virginia, Richmond, on December 10th. He spoke to the senior medical students on exophthalmic goiter and to the junior medical students on angina pectoris.

Dr. E. C. L. Miller, directing librarian at the Medical College of Virginia, Richmond, attended the annual meeting of the American Association for the Advancement of Science, held the week after Christmas, in Cleveland, and read a paper on the development of libraries in the several state academies of science. Dr. Miller went to the Cleveland meeting as a representative both of the Virginia Academy of Science and of the Virginia chapter of the American Association of University Professors which assembled at the same time in that city.

Wives of students now attending the Medical College of Virginia, Richmond, were, in December, given a reception by the Woman's Auxiliary of the college, composed of more than forty members. The reception was held in the evening at Cabaniss Hall and was under the direction of a committee composed of Mrs. Harry Lyons, Mrs. C. W. Skinner, Mrs. F. W. Shaw, Mrs. Harry Bear, and Miss Lulu K. Wolf. There are more than 140 married students at the college at this time.

The outpatient department of the Medical College of Virginia, Richmond, had 3,403 visits by patients during the month of November. The largest number of patients for one day was 225, the smallest 86.

The appropriation of the Richmond Community Fund for the outpatient department during 1931 has been fixed at \$10,000 toward a budget of approximately \$40,000.

A bequest of \$2,000 with accrued interest of approximately \$1,000 has been received recently by the college hospitals.

"Progress in Health Services" was the subject of Dr. William John Gies, professor of biological chemistry at the College of Physicians and Surgeons, Columbia University, when he was the chief founder's day speaker at the Medical College of Virginia, Richmond, December 1st, on the ninety-third anniversary of the institution.

Married.

Dr. Charles P. M. Sheffey, Lynchburg, Va., and Miss Mae Joy Burch, of Richmond, Va., a graduate nurse of Memorial Hospital, this city, December 31st.

Dr. Donald Bain Moore, Badin, N. C., and Miss Emmie Anderson Brown, Albemarle, N. C., October 17th. Dr. Moore is an alumnus of the former University College of Medicine, Richmond, Va.

Dr. Ellis Columbus Moore, Carthage, Miss., and Miss Catherine Preston Finney, Lexington, Va., in December. Dr. Moore graduated from the Medical Department of the University of Virginia in 1927.

Dr. Blake Walden Meador and Miss Ethel Marchant Hale, both of Richmond, Va., the latter part of December. Dr. Meador is an alumnus of the Medical College of Virginia, class of '27.

The Seaboard Medical Association of Virginia and North Carolina

Held its annual meeting at Elizabeth City, N. C., December 2nd-4th. There was a large attendance, including a number of the doctors' wives. Several papers of unusual interest were presented and discussed, and ample entertainment was afforded those who attended.

A feature of this meeting was a memorial service held for Drs. Cyrus Thompson and Charles O'H. Laughinghouse, with a eulogy

by Dr. H. D. Walker, president of the Association.

The following officers were elected for the ensuing year: President, Dr. James H. Culpepper, Norfolk, Va.; vice-presidents, Drs. C. B. Williams, Elizabeth City, N. C.; James E. Marable, Newport News, Va.; Paul H. Whitaker, Kinston, N. C.; and O. R. Yates, Suffolk, Va.; treasurer, Dr. A. M. Burfoot (re-elected), Fentress, Va.; and secretary, Dr. Clarence Porter Jones (re-elected), Newport News, Va. The next meeting is to be held at Suffolk, Va., December 1-3, 1931.

News From University of Virginia, Department of Medicine.

At the meeting of the University of Virginia Medical Society on November 24th, Dr. Alfred Chanutin spoke on Some Recent Advances in Biochemistry, and Dr. J. H. Neff spoke on Exposure of the Bladder as a Step Preliminary to Cystostomy and Prostatectomy.

Dr. L. T. Royster spoke before the Rockbridge County Medical Society in Harrisonburg on December 8th, on the subject of Malnutrition and Posture.

Dr. J. H. Neff read a paper by invitation before the New York Branch of the American Urological Association at the meeting on December 5th.

Dr. W. H. Goodwin attended the meetings of the Southern Surgical Society in Lexington, Ky., from December 9th to 12th.

Dr. H. B. Mulholland was elected President of the University of Virginia Medical Society for the coming year. Dr. E. L. Corey was re-elected Secretary. At the meeting of the Society on December 8th, Dr. J. E. Kindred presented a paper on Studies on the Blood of the Fetal Albino Rat, and Dr. F. B. Carter spoke on Blood Findings in Pregnancy.

A new contract has been drawn up for the cooperation of Albemarle County, the City of Charlottesville and the University of Virginia in a Joint Health Department. Under the terms of this contract a Joint Health Board is created consisting of five members, two from the County, two from the City, and one from the University, with full power to act in all matters pertaining to the public

health in the city and county except with regard to appropriations and the promulgation of ordinances.

Arrangements have been completed for a study of the incidence, and the effect of mass treatment of syphilis in the colored population of Albemarle County. The study is a cooperative enterprise sponsored by the Rosenwald Fund through the U. S. Public Health Service, the State Board of Health, and the University. Surgeon C. E. Waller, of the U. S. P. H. S., has arrived in Charlottesville to organize the field work and has established headquarters in the Joint Health Department.

The Annual Report of the U. S. Public Service,

Covering the work of the Service during the past fiscal year, was recently submitted to Congress by Surgeon General H. S. Cumming. It states that one of the important public health duties of the Federal Government is the prevention of the introduction and spread of infectious diseases from foreign countries into the United States. In order properly to protect the United States against the introduction of infectious diseases, this Service keeps itself advised currently as to the prevalence of disease, not only in the United States but, in so far as practicable, throughout the world. In connection with this work, 20,645 vessels, 1,056,294 passengers, 1,380,241 seamen were inspected at domestic and insular ports and 1,211,796 alien passengers and 968,759 alien seamen were examined by medical officers under the immigration law.

Reports to the Public Health Service for the past fiscal year indicate generally good health conditions throughout the United States. However, there was noted an increase in the prevalence of pellagra and a marked increase in the number of cases of infantile paralysis in certain states just before the close of the fiscal year. The report also shows that for three years, at least, the incidence of smallpox in the United States has been increasing, this in spite of the fact that it may be avoided by vaccination and revaccination.

It is stated that although some progress is being made in the establishment of adequately and properly organized local health service, only about 25 per cent of the rural population of the United States is at present so provided, and it is the opinion of the Service, of State

health authorities, and other health workers that the development of efficient whole-time local health organizations will yield a far greater return on the dollar invested than many other programs.

During the year, many investigations relating to various public health problems have been conducted, and medical facilities were provided in 155 ports of continental United States and its insular and territorial possessions for hospital and out-patient treatment for seamen from merchant vessels and other legal beneficiaries of the Public Health Service.

By act of Congress, approved May 26, 1930, the name of the Hygienic Laboratory was changed to the National Institute of Health, and provisions were made for additional buildings, the establishment of fellowships, and the acceptance of gifts for the study of fundamental problems relating to the diseases of man.

During the year an act of Congress established a Division of Mental Hygiene in the Public Health Service and placed the supervising and furnishing of medical and psychiatric service in Federal penal and corrective institutions under this Service.

The personnel of the Public Health Service, consisting of a corps of medical, dental, sanitary engineer and pharmacist officers, nurses, specialists and other technical and non-technical employees, at mid-year consisted of 1,476 medical officers and persons of other scientific ratings, and 3,416 general and technical employees.

The White House Conference on Child Health and Protection,

Held in Washington, D. C., in November, has been so much talked about and is of such great interest on account of the views which have been coordinated from a vast number of physicians and others interested in child welfare, that we are presenting the final summary as given by Dr. Ray Lyman Wilbur in the *Miscellaneous Department* of this issue of the MONTHLY.

Post-Graduate Clinic for Negro Physicians.

A post-graduate clinic for negro physicians of Virginia is announced by Dr. W. T. Sanger, president of the Medical College of Virginia. This is stated to be the first educational venture of its kind in the South and will be established by the College in connection with Saint Philip Hospital, Richmond.

The instruction will begin June 16th. The negro physicians have been asked to decide upon the courses. It is stated that the College has had the plan under consideration for several years and it has the endorsement of the Department of Clinical Education of the Medical Society of Virginia.

Dr. W. J. Innes,

Pennington Gap, Va., returned recently from a visit to Detroit, Windsor and London, Ontario, and other places. He is now apparently restored to health after his recent illness of several months.

Elected to Fellowship in American College of Physicians.

The following Virginia physicians were elected to fellowship in the College, at Louisville, Ky., on November 11th: Drs. Mason Romaine, Petersburg; Ernest William Brown (M. C., U. S. N.), Quantico; Charles M. Caravati and James H. Royster, Richmond; and Alex. F. Robertson, Jr., Staunton.

The fifteenth annual Clinical Session of the College will be held at Baltimore, Md., March 23-27, 1931. Dr. Sydney R. Miller, of that city, this year's president, is in charge of the General Scientific Program, while Dr. Maurice C. Pincoffs, professor of Medicine of the University of Maryland School of Medicine, is the General Chairman in charge of Arrangements, Clinics and Entertainment. Many national authorities are being selected to present papers or clinics. The Convocation for the conferring of Fellowships will take place March 25th. Virginia now numbers twenty-nine Fellows in the membership of the American College of Physicians.

Dr. Charles A. Young,

Roanoke, Va., after undergoing an operation for removal of his gall-bladder and appendix, went to Florida the latter part of December and will not return to his office until the first of February.

The New York Polyclinic Medical School and Hospital.

New York, N. Y., opened its new private pavilion and operating rooms for inspection on December 29th and 30th.

They also announce the appointments of Dr. George D. Stewart as Consulting Surgeon, and Drs. Evan Evans, Orrin S. Wightman and C. N. B. Camac, as Consulting Physicians to the Hospital.

Dr. J. William Humphries,

Culpeper, Va., has been appointed a member of the Culpeper County Board of Health to fill the vacancy caused by the resignation of Dr. Otis Marshall, who, it is announced, will go to Washington, D. C., where he will be connected with Red Cross headquarters.

Other members of the local board are Drs. Granville Eastham, Rapidan, and John R. Boldridge, Rixeyville.

Annual Report of the Surgeon General, U. S. Navy.

Figures for the calendar year ending June 30, 1930, show that in almost every phase of the health of the Navy conditions reached favorable points that have rarely been surpassed in previous years.

On July 1, 1930, the Medical Corps numbered nine hundred members. During the year eighty-one new medical officers were commissioned and fifty-three were separated from the service. There were 264 candidates authorized to appear for examination for appointment in the Medical Corps in January, 1930, and of this number eighty-four were found qualified for appointment.

The aviation medicine section was made an independent division during the year. Flight orders were issued to nine additional qualified flight surgeons of the thirty-five flight surgeons now performing the flight duties; twenty-seven are under flight orders. There has been an almost progressive decline in aviation fatalities per unit of flying hours during the last eight years.

The Department of Internal Medicine made two hundred and sixty-one complete diagnostic studies during the year. There were four hundred and sixty basal metabolism tests and one thousand two hundred and eight electrocardiographic examinations made. Work done by the various laboratories at the Medical School during the year shows an increase of 50 per cent over that of last year.

The Thomas W. Salmon Memorial Meeting.

A meeting in memory of the late Dr. Thomas W. Salmon, former Professor of Psychiatry of Columbia University and Medical Director of The National Committee for Mental Hygiene, will be held at The New York Academy of Medicine, Fifth Avenue and 103rd Street, New York City, on Saturday evening, January 10th, at 8:00 o'clock.

This meeting is open to the medical profession and the public but to obtain reservations application should be made to Dr. C. C. Burlingame, 17 East 42nd Street, New York City.

Announcement to this effect has been made by the committee formed shortly after his death for the purpose of establishing a permanent memorial in Dr. Salmon's honor. This committee contemplated the creation of an endowment fund, the income from which could be devoted to an annual lecture or series of lectures to be known as The Thomas W. Salmon Memorial Lectures to be given by authorities in psychiatry and mental hygiene for the advancement of knowledge in these fields in which Dr. Salmon was pre-eminent.

The sum of \$100,000 has been subscribed by friends and admirers of Dr. Salmon and will be officially presented at this meeting at which the Memorial is to be formally established. At the conclusion of the program a committee of the Academy will announce the person chosen to give the first of The Thomas W. Salmon Memorial Lectures.

Each year there will be chosen by the Academy and a special advisory committee a scientific worker who has made an outstanding contribution in psychiatry, mental hygiene or a related field, and who will deliver the lecture or lectures in New York or other cities under the auspices of the Academy of Medicine or some other accredited scientific, medical or educational organization. The lectures will be published annually in leading periodicals and in book form to make them available for the largest number of workers in these fields and to stimulate further research and study.

Is Your Child Left-Handed?

Don't nag your left-handed child to force him to be right-handed, advised Dr. Ira S. Wile in a recent number of the *Parent's Magazine*. Such treatment, he says, may make the child nervous and unhappy and result in difficulties of speech, reading, writing, and thinking. Left-handedness is not an abnormality, he assures anxious parents, but is simply a sign that certain nerve centers on the right side of the brain are more active than those on the left side, whereas in a right-handed person the corresponding nerve centers on the left side are the more active.

Dr. R. D. Garcin,

Richmond, Va., who recently underwent a

couple of operations, is reported as much improved.

Major Guy L. Qualls, M. C.,

Of the U. S. Army, stationed for several years at Fort Eustis, Va., during which time he was a member of the Medical Society of Virginia, has been transferred to Fort Leavenworth, Kan.

The Southern Surgical Association

Held its annual meeting at Lexington, Ky., December 9th-11th, under the presidency of Dr. James M. Mason, Birmingham, Ala. The record attendance was 137 members present and there were thirty-eight scientific addresses made during the meeting. White Sulphur Springs, W. Va., was selected for the 1931 place of meeting, the dates for which will be December 8th-10th. Dr. Hugh H. Trout, Roanoke, Va., was elected to the presidency, and Dr. Frank C. Beall, Fort Worth, Texas, and Charles A. Vance, Lexington, Ky., were elected vice-presidents. Dr. R. L. Payne, Norfolk, Va., was re-elected secretary, and Dr. Julius Taylor, Columbia, S. C., treasurer.

Dr. B. C. Keister,

After several years in Harrisonburg, Va., has returned to Washington, D. C., where he will continue the practice of medicine and general surgery and will be located at 3461 Fourteenth Street, Northwest.

Dr. H. C. Grant,

Formerly of Norfolk, Va., after an absence from the State of several years, has returned and is located at Remington, Va., for the practice of medicine.

Dr. A. M. Byrd,

Formerly of Warm Springs, Va., but more recently located at Northfork, W. Va., announces his change of address to 311 Ellis Building, Phoenix, Ariz.

Civil Service Examinations.

The U. S. Civil Service Commission, Washington, D. C., announces open competitive examinations for Medical Officer, Associate Medical Officer, Assistant Medical Officer (general medicine and surgery), applications for which positions will be rated as received by the Commission, until June 30, 1931.

Dr. M. H. Todd,

For the past nine years chief surgeon of the Kentucky Division of the U. S. Coal and Coke Company (a branch of the Steel Corporation), at Lynch, Ky., has recently opened offices in

Norfolk, in connection with the Sarah Leigh Clinic, and is specializing in surgery and traumatic surgery. Dr. Todd graduated from Johns Hopkins in 1913, and is a Fellow of the American College of Surgeons.

Hoffman-La Roche Expands Again.

Hoffmann-La Roche, Inc., of Nutley, N. J., well known as "makers of medicines of rare quality," have extended their property by the purchase of ten additional acres of land, making a total tract of thirty-five acres. The purchase was deemed essential in the light of the Company's steadily increasing sales under keen aggressive management.

In the words of Mr. Elmer H. Bobst, General Manager, "Hoffmann-La Roche has just begun to grow!"

Dr. F. F. Thweatt, Jr.,

Assistant Surgeon, U. S. Public Health Service, was relieved from duty at the Marine Hospital, at Ellis Island, N. Y., on December 15th, and assigned to duty at the Marine Hospital, Vineyard Haven, Mass., in charge of the hospital. Dr. Thweatt is a graduate of the University of Virginia, Medical Department, in 1928.

Call for Scientific Exhibits.

The Committee on Scientific Exhibits of the American Medical Association has issued the statement that applications for scientific exhibits for the Philadelphia meeting in June must be received before February 20, 1931.

For further information, write Mr. Thomas G. Hull, Director, Scientific Exhibits, 535 N. Dearborn St., Chicago, Ill.

Free Hearing Tests for Illinois Children.

Free hearing tests are being made among Illinois school children by the Illinois State School for the Deaf, at Jacksonville, reports the *Journal of the American Medical Association*. An experienced staff with audiometer equipment is being sent direct to the schools, whenever desired, to test the children and recommend treatment and suitable educational facilities. More than 200,000 Illinois children of school age are believed to have defective hearing.

Gorgas Essay Contest Announced.

A third annual essay contest on a health topic for students of junior and senior classes began December 8th. The subject selected for this year's contest is "Keeping Fit: The Gorgas Program of Personal Health." High school winners will receive a Gorgas Medallion,

State winners \$20 in cash and National winners will receive \$500, \$250 and \$100 in cash. All winning high school papers, which are to be chosen by faculty members, must reach the Executive Offices of the Gorgas Memorial Institute, 1331 G Street, N. W., Washington, D. C., not later than January 25, 1931. For detailed information write this address.

Dr. P. P. Pharr,

Of the class of '27, Medical College of Virginia, recently located at Hinton, W. Va., has moved to Beckley, W. Va., where he is now associated with Dr. A. H. Grigg in the practice of general medicine.

Dr. F. E. LaPrade,

Who graduated from the Medical College of Virginia in the class of '29, upon completing his internship at Welch Hospital, No. 1, Welch, W. Va., has been made assistant surgeon of that institution.

Dr. C. W. Lewis,

Graduate of the Medical College of Virginia in 1930, is serving his internship at Welch Hospital, Welch, W. Va.

Dr. C. F. Johnston,

Of the class of '29, Medical College of Virginia, has recently become connected with Drs. Hall and Daniels, of Welch, W. Va.

Dr. W. M. Phipps,

Of Hopewell, Va., has been elected a member of the Board of Directors of the Kiwanis Club of that city, for the year 1931.

Dr. A. D. Knott,

Parkersburg, W. Va., formerly professor of preventive medicine at the Medical College of Virginia, Richmond, and now director of the Wood County, W. Va., Health Unit, was recently elected president of the West Virginia Public Health Association.

American Public Health Association.

At the annual meeting of this Association, recently, Dr. Hugh S. Cumming, Surgeon General of the U. S. Public Health Service, Washington, D. C., was installed as president; Dr. William C. Hassler, of San Francisco, was elected president-elect; and Mr. Homer N. Calver, of New York, was re-elected executive secretary. It was decided to hold the 1931 meeting at Montreal, Canada, the dates being September 14th-17th.

Dr. Tom A. Williams,

Formerly of Washington, D. C., where he spent the summer months, announces his return to Miami Beach, Fla., where he is at the Monterey Apartments

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On account of death, doctor's complete office equipment for obstetrics, pediatrics, and general practice. Will also rent offices. Splendid opening, with hospital facilities. Address Mrs. C. B. C., 209 High Street, Farmville, Va. (Adv.)

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For Sale—

Account death of owner, thirty-five bed hospital, excellent equipment and location. Splendid practice and patronage. Heart of city of 75,000 population. Write for details, to W. L. Burks, 527 Mountain Avenue, S. W., Roanoke, Va. (Adv.)

For Sale—

Account of death, doctor's office fixtures and instruments. Moderately priced. For information, address No. 264, care this journal. (Adv.)

Obituary Record

Dr. William Virgil Atkins,

Member of the Medical Society of Virginia since 1887, died at his home in Blackstone, Va., December 7th, death being due to angina pectoris. Dr. Atkins was a native of Nottoway County and seventy-three years of age. He graduated from Louisville, Ky., Medical College in 1883. His second wife and five children by a former marriage survive him. Dr. Atkins was a widely known southside Virginia physician and had been for many years a surgeon for the Norfolk and Western Railway, and also physician for the Blackstone College for Girls.

Dr. John Charles Burks,

Owner and physician-in-charge of St. Charles Hospital, Roanoke, Va., died Decem-

ber 5th, after having been in bad health for several years—from about the time of the death of his wife. He was born in Rockbridge County, Va., in 1873, and, after graduating in medicine at the Medical College of Virginia in 1897, practiced in that county and also at Pocahontas, Va., for a time before locating at Roanoke. He had been a member of the Medical Society of Virginia from the year of his graduation in medicine. Several sisters and a brother survive him.

Dr. John Reveley Guerrant,

Formerly of Franklin County, Va., died at the home of his daughter in Salt Lake City, Utah, December 19th. He is survived by his wife and two daughters. Dr. Guerrant was about sixty years of age and graduated in medicine from Columbia University, College of Physicians and Surgeons, New York, in 1891. He was a member of the Medical Society of Virginia until several years ago when he retired from active practice.

Dr. William Jeffries Newbill,

Irvington, Va., well-known doctor of the Northern Neck, died December 15th. Had he lived another day he would have celebrated his eighty-fourth birthday. Two sons and a brother survive him. At the age of sixteen, Dr. Newbill entered the Confederate service in the War Between the States, and was one of the last survivors of Mosby's cavalry. Shortly after the war, Dr. Newbill took up the study of medicine at the University of Maryland, Baltimore, and received his diploma from that institution in 1868, following which he practiced medicine for a number of years in this State.

Dr. Delmar F. Weaver,

Well-known physician of Orange, Va., died at his home in that place on December 12th. Death was due to a cerebral hemorrhage, following a paralytic stroke suffered three hours earlier. Dr. Weaver, who was fifty-eight years of age, studied medicine at the University of Virginia, and received his diploma from that school in 1894. Following his graduation he returned to his home county and practiced there continuously. His wife and six children survive him. One of the sons is now studying medicine at the University of Virginia.

Dr. James Wood Jordan,

Formerly of Asland, Va., died December the 7th, after having been in ill health for the past

three years. He was fifty-three years of age and graduated from the Medical College of Virginia in 1901. Prior to the entry of the United States into the World War, Dr. Jordan was a major in the Anglo-French medical corps stationed at a hospital near Paris. He later resigned this position to serve in the medical corps of the American Expeditionary Forces. At the close of the war, he remained in the army and served at several posts until his health declined. His wife, two sisters and a brother survive him.

Miss Agnes Dillon Randolph,

Richmond, Va., Director of the Tuberculosis Bureau of the Virginia State Department of Health, died on December the 4th, following a short illness. In the words of an editorial in a daily paper, the death of Miss Randolph "marks the passing of one of the ablest women executives and public servants the State has ever known." As a girl she trained as a nurse, and served as superintendent of nurses both at Virginia and Memorial Hospitals in Richmond, and was later founder of the chair of Nursing at the University of Virginia. In 1914, Miss Randolph became executive secretary of the Virginia Tuberculosis Association, which position she held until 1919. She was nationally known for her work as an executive in the tuberculosis field.

Dr. C. T. Barker,

Gate City, Va., died on October 6th, death being due to nephritis. He was seventy-seven years of age and was licensed in Virginia by exemption.

Dr. Theodore Dudley Rountree,

Rockdale, Texas, who graduated from the University of Virginia, Department of Medicine, in 1902, died in San Antonio, Texas, on October 5th, aged fifty years.

Dr. Harry Houston Hughart,

An alumnus of the former University College of Medicine, Richmond, Va., in the class of 1900, died suddenly on November 3rd, at his home in Tombstone, Ariz., at the age of fifty-four years. Death was due to heart disease.

Dr. Henry Hubert Powell,

Stantonsburg, N. C., died on October 14th, aged forty-four years, of heart disease. Dr. Powell studied medicine in Richmond, graduating from Medical College of Virginia in 1911.

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Virginia Medical Monthly

OFFICIAL ORGAN OF THE MEDICAL SOCIETY OF VIRGINIA

Vol. 57, No. 11.
WHOLE No. 944.

RICHMOND, VA., FEBRUARY, 1931

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FIFTEENTH ANNUAL CLINICAL SESSION

of the

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BALTIMORE, MARYLAND MARCH 23-27, 1931

This meeting will be held in Baltimore through the cordial invitation of the Johns Hopkins University School of Medicine, the University of Maryland School of Medicine, the Medical and Chirurgical Faculty of the State of Maryland, the Baltimore City Medical Society, and the further cooperative interest manifested by the various Baltimore hospitals and civic societies.

OUTLINE OF SESSION

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A. M.	March 23	March 24	March 25	March 26	March 27	March 28
9:00 A. M. to 12:30 P. M.	Morning free. Registration, Exhibits, etc.	3d General Session	5th General Session	6th General Session General Busi- ness Meeting	7th General Session	Entire Day in Washington, D. C. Clinics, Inspec- tion tours, etc.
12:30 P. M. to 2:00 P. M.	Lunch	-----	-----	-----	-----	Under auspices of Medical Depts. of
2:00 P. M. to 5:00 P. M.	1st General Session	1st Clinical Session	2d Clinical Session	3d Clinical Session	4th Clinical Session	Army, Navy, U. S. Public Health Service,
5:00 P. M. to 8:00 P. M.	Dinner	-----	-----	Annual Banquet	-----	Georgetown University.
8:15 P. M. to 10:30 P. M.	2d General Session	4th General Session	Convocation and Reception to New Members		Free	Full details not yet ready.

The Annual Clinical Session of the College constitutes one of the most valuable postgraduate weeks in Internal Medicine and affiliated specialties conducted on the North American Continent. Members will receive the Program promptly as published, but non-members interested in attending the Session may secure the Program on direct request to the Executive Secretary. Non-members of the College pay a moderate registration fee for admission to the meetings.

The headquarters hotel, the Lord Baltimore, is already engaged to capacity, but suitable accommodations can be secured at any of the following hotels: Altamont, Arundel, Belvedere, Emerson, Kernan, Mt. Royal, New Howard, Rennert, Southern and Stafford.

The Alcazar, Cathedral and Madison Sts., will be general headquarters for the registration of members, commercial exhibits, and all general sessions. Some guest rooms are available at The Alcazar.

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RICHMOND, VA., FEBRUARY, 1931

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LOUIS PASTEUR.*

By R. H. GARTHRIGHT, M. D., Vinton, Va.

Is it not meet and proper for scientific bodies to sometimes pause in the midst of technical deliberations and review some of the achievements and characteristics of our outstanding men of science?

Those who have closely studied the life and work of Louis Pasteur unhesitatingly proclaim him the foremost scientist of the nineteenth century.

He entered life shortly after the European continent emerged from the tragic war waged by Napoleon Bonaparte, in which many of the forceful and promising young men of France were slain.

From his patriotic father and his brilliant, tender-hearted and generous mother he inherited qualities of head and heart that guided him amid trials and difficulties to a most useful and distinguished career.

The record of his life, so lucidly and graphically drawn by Radot, is most enjoyable, and intensely thrilling. He states that "in all things his father and mother took an interest in noble motives and principles; their material life was lightened and illumined by their moral life."

We are all aware of the fact that when he began his chemical and other scientific studies, contagious and infectious diseases were not understood.

Nobody is yet wise enough to tell when man first made his appearance on the earth; neither can any one state positively the origin of his most destructive enemies; but, we may assert with almost absolute certainty, spontaneous generation being proved a myth, that invisible disease germs were created coevally with man. They remained undisturbed, feasting luxuriously, and rioting in the blood and flesh of man and beast from time immemorial, driving millions of our ancestors down to premature graves, while the poor helpless and igno-

rant victims knew not why they were doomed so early in life to "shuffle off the mortal coil."

Today we know that since history began, down through the centuries, these infinitesimal organisms have attacked, crippled and slain men, decimated the population of mighty nations, destroyed valuable industries, and impoverished the inhabitants over vast areas of this globe.

Ancient literature reveals the fact that doctors were acquainted with the symptoms, and could frequently form correct prognoses of diseases, but their etiology was enveloped in deepest darkness. Even near the close of the nineteenth century the minds of many remained beclouded on this subject. Elaborate theses couched in classic diction were multiplied into tomes, but brought no glow of light on the subject of etiology.

Hear Osler:—"At the middle of the last century we did not know much more of the scourges of the race, the plagues, the fevers and the pestilences than did the Greeks."

It is known that for years after the coming of the microscope, when germs became visible, men had no idea how they functioned, and even today "doubting Thomases" appear when a novel medical thought is published.

Some of us remember a unique scene in the Princess Anne Hotel at Virginia Beach in 1898, when the State Society met at that resort. Dr. E. C. Levy read a paper on *Do Bacteria Produce Disease?* He made the statement that the science of bacteriology was then less than twenty years old. Most of the doctors present agreed with the thoughts expressed in the paper, but when he concluded, certain gentlemen of the profession, cultured, intellectual and forceful in debate, refused to accept the new and startling idea, stood up and, with vehement eloquence, denied and derided the statements coming from one whom they really believed a young and ignorant upstart. One of them said, in substance, "Bugs do not cause me the least alarm. They are *not* producers of disease. The microorganisms

*Read before the Roanoke Academy of Medicine, June 2, 1930, and published by request of the Academy.

found in the throat of a diphtheritic child are not only perfectly harmless, but beneficial, because they act as scavengers, devouring the rotten membrane, thus clearing the plugged laryngeal channel and making respiration soft and easy!"

Doubters are always ready to minimize new and important medical discoveries, and to pronounce them of no practical value. To them the dawn that appeared to Pasteur was but "a shadow scarce worth noticing."

Woeful, indeed, were the calamities wrought by germs of contagion prior to the realization of their evil potency. Then brave men fought the unseen foe, and died in the conflict. Have we forgotten the hero and martyr who fell fighting for his people in the city of Norfolk, Va., during the terrible scourge of yellow fever in the summer of 1855, when more than two thousand men, women and children died with the disease? Is there a monument erected to the memory of the brave and noble-hearted Upshur?

We shudder when we think of the hopeless condition of the wounded soldiers in the wars of the past, when infection ran riot, and gangrene thrust its deadly talons into broken tissues reeking with horrible and nauseating odors. Young men, bright and hopeful, clinging to life, languished and died by thousands because medicine and surgery were powerless to save them.

BUT, at last, out of the gross darkness, a light appeared. Louis Pasteur saw the glimmer springing from out the shadows. Then came more light, and finally a brightness like unto the noonday. We are all acquainted with the activities of this man of genius and power. It would not be in accord with the "eternal fitness of things" to describe in detail before this body of doctors and scientists his many remarkable discoveries. Only a few will be mentioned.

The silk worm industry was rapidly passing out of existence because of the presence of a fatal malady among the worms, impoverishing thousands depending on sericulture for a living. After several years spent in investigation he found the cause of this malady, and also the cure, restored the industry, to the relief and comfort of many of his countrymen, as well as to people in other lands.

He touched and relieved the fatal contagion of sheep, hogs, and cattle, a discovery that, to

this day, brings untold wealth to the world's population.

He proved the doctrine of spontaneous generation false, declaring, "Those who affirm it have been duped by illusions, by ill-conditioned experiments, spoilt by errors they either did not perceive or did not know how to avoid."

In the year 1880 he was the first to cultivate streptococci from cases of puerperal infection (Whitridge Williams).

Lister had already introduced antiseptics into the lying-in room.

Pasteur exhibited the chain microbe, which M. Roux declared the most frequent cause of infection in recently delivered women. Lister said to him, "You have raised the veil which for centuries had covered infectious diseases. You have discovered and demonstrated their microbial nature."

His proof that wounds become infected by germs from without awakened interest that revolutionized the practice of surgery.

"His perseverance equalled his penetration." In the study of a subject he attacked it from every angle. He urged: "*Exhaust every combination until the mind can conceive no others possible.*" He analyzed, experimented, and compared, proving point after point until every doubt was banished, then gave the answer, and his critic's statements fell flat before the truth.

In the face of his lucid demonstrations that, it seems, a moron could grasp and comprehend, his critics continued their senseless nagging, and a few medical men of more or less prominence, jealous and vindictive in their attitude toward him, declared his methods unfit in the treatment of disease, hurling at him in vicious and sarcastic tones, the words, "Not a doctor, but a mere chemist."

But, while annoyed and sometimes exasperated, he declared: "*They shall see. I will make them see.*" A man of science should think of what will be said of him in the following century; not of the insults or the compliments of one day."

He gave forth benedictions while he lived. His biological researches brought results that will continue to strengthen and enrich the nations of earth to the end of time.

He labored to diminish the sorrows of humanity. "Whatever the obstacle, he was persuaded that science would continue its civiliz-

ing progress, and its benefits would spread from domain to domain."

No citizen of France excelled him in patriotic fervor. Ardently he loved his country, and deeply lamented that a physical affliction, attacking him in mid-life, precluded his entrance into the army in the disastrous conflict with the German hosts in 1870.

He was rightly called the "Precursor of the Medicine of the Future, and a Benefactor of Humanity" (Dr. Fleys).

He was the first to show the infectious nature of hydrophobia, ascribing to it a toxin developed by a microorganism (Tyson).

Vulpian said: "The discovery of the preventive treatment of hydrophobia after a bite, *entirely due to M. Pasteur's experimental genius*, is one of the finest experiments ever made, both from the scientific and the humanitarian point of view." And Charcot: "I am persuaded that I express in these words the opinion of all the medical men who have studied the question with an open mind, free from prejudice,—'The inventor of an antirabic vaccination may now, more than ever, hold his head high, and continue to accomplish his glorious task, heedless of the clamor and contradiction of the insidious murmurs of slander.'"

Huxley declared in the eighties that his discoveries had already brought wealth to France sufficient to pay her war indemnity to Germany. Under the use of antiseptics, surgical mortality had been reduced from 50 to 5 per cent; confinement cases in hospitals from two hundred per thousand to one per thousand. *Marvelous! Magical! Glorious!*

When we catch the meaning of the magnitude of the work of this wizard in the field of science we stand amazed, and instinctively breathe the grateful prayer of the poet-preacher of Vinton:

"We thank thee, Lord of days now gone,
For men who wrought, and met the dawn."
—Joseph Herbert Bean.

Great and good leaders of men in the past subdued corrupt nations, and established kingdoms and commonwealths of righteousness; wise, honest and stern occupants of the bench of Justice, in the face of dangers many and most appalling, dared to utter decisions because they were just and right, and turned the tide that was drifting toward anarchy and

ruin; but the results of their potent and benevolent activities were not equal to the far-reaching blessings to humanity wrought by this magic man of science.

He bore a kind and charitable heart, he loved his friends, and did not hate his enemies. When "tried as if by fire," he grew more noble and generous in spirit. His burning desire was to uncover some of the secrets of nature, which, utilized, would lift burdensome afflictions and bring health, peace and comfort to men. Verily, the spirit of the Divine guided him, for he "did justly, loved mercy, and walked humbly with his God."

And so I repeat, those who have closely studied the life and work of Louis Pasteur unhesitatingly proclaim him *the foremost scientist of the nineteenth century.*

CARCINOMA OF RECTUM AND SIGMOID.*

By STANLEY H. GRAVES, M. D., Norfolk, Va.

Admitting the wonderful discoveries and advances made for the eradication of cancer during the past several years, it is to be regretted that the reported results on the treatment of carcinoma of the rectum and sigmoid have been more or less disappointing. Hence, cancer of the rectum has grown to be of ever-increasing interest to the proctologist, not only from an operative standpoint, but equally so in regard to the possibility of an early diagnosis, and the application of timely treatment.

Statistics prove quite clearly that carcinoma of the rectum and sigmoid comprise about 4 per cent of all cancers of the body, and that approximately 80 per cent of all intestinal tumors are in the rectum or sigmoid. The principal seats of location of the growths are at the junction of the rectum with the sigmoid, in the rectal ampulla, or in the anal canal. The ratio of incidence in the male and female is about two to one, and while it is sometimes found in persons as young as 11 years of age, the great majority of rectal involvements are found during the cancer age, that is 35 to 50 years.

In a study of the pathology, Maude Slye has rather clearly shown that there are two factors necessary for their production; first the inherited susceptibility, and second, irritation or chronic trauma fitted to induce it. The most common type is the adeno-carcinoma. Of this

*Read at the sixty-first annual meeting of the Medical Society of Virginia, in Norfolk, October 21-23, 1930.

there are three varieties of growths,—papilloma, adenoma, and colloid carcinoma. Metastasis, although proven to be a late manifestation, has been estimated to occur in 39 per cent of the cases examined and studied.

Miles describes three points of lymphatic drainage of the rectum:

1st. The downward path, to the perineal skin, ischio-rectal fat, and to the external sphincter.

2nd. The lateral spread, to the posterior vaginal wall, the base of the bladder, the base of the broad ligaments, the levators, and to the recto-rectal lymph node.

3rd. The upward spread, to the perineal floor of the pelvis, pelvic meso-colon, para colic lymph nodes, and the nodes at the bifurcation of the left common iliac artery.

Taking into consideration the many ways that carcinoma of the rectum and sigmoid can spread, and metastasize, we can but visualize an unfavorable outlook for the unfortunate victim. It is true in young persons the growth is very malignant, and disseminates very rapidly. Metastasis to the regional lymph nodes, and distant organs may take place while the primary growth is still in an early stage of development; the reverse is the general rule in persons of the "cancer age." On comparison with malignancy in other situations, carcinoma of the rectum and sigmoid proper, until well advanced, metastasize late, and relatively rarely to distant organs.

Reviewing the early symptoms of carcinoma, we may correctly speak of the "silent rectum." This concealment of symptoms is due in part to the large caliber of the affected bowel, but mainly due to the insidious nature of the disease which may produce only minor disturbances or remain almost symptomless for many months, eventually to force the patient to consult his physician for symptoms of severe pain and apparent obstruction.

The most tragic aspect of cancer of the rectum is due to the fact that the diagnosis is usually made on late manifestations; such as constipation; ribbon stools; progressive weakness; loss in weight; cachexia; with metastasis which is a picture of a hopeless case. Therefore, if one wishes to serve well his patient, and in a scientific way, he must see the case early and make his diagnosis long before these late symptoms manifest themselves. Such early symptoms are bloody stools, changed bowel habits, and a mass in the rectum, found

in at least 70 per cent of the cases. The Mayo Clinic reports that 26 per cent of their cases of rectal carcinoma had been operated upon for hemorrhoids without a report of a single rectal examination.

It is to be remembered that the train of symptoms enumerated by the patient may not be characteristic of carcinoma alone. Identical symptoms also occur in all other ulcerations of the terminal bowel, along with simple tumors, stricture and other lesions. Therefore, the complainant should receive the benefit of a thorough examination, for it has been shown that the failure to recognize cancer of the rectum early is due not so much to a lack of knowledge, as to a failure in applying at the earliest moment the knowledge we do possess.

To the experienced finger, digital examination may be sufficient, since carcinomatous infiltration is firm, nodular and friable, and should be regarded with suspicion. The use of the procto-sigmoidoscope, and the examination of the stools for occult blood, are next of importance in making the examination. The finger should be pushed up as far as possible, and the upper part of the rectum explored. When there is a doubt as to the cause of the symptoms, and no definite changes from normal have been felt, the proctoscope should be utilized. This instrument should never be passed without a previous digital examination; and never inserted further than the internal sphincter before removing the obturator, and seeing where the point of the instrument is passing. The rectum must be empty and strong cathartics should not be used before the examination is made. X-ray, using the barium enema, should always be made before operative procedure, to determine the upper boundary of the tumor or involvement of the bowel at a higher level.

When a tumor can be felt or seen in the rectum, it may be clearly malignant, or it may have the appearance of an adenoma or papilloma; in this event a piece of the tumor should be removed for examinations. Even though no evidence of malignancy be found, it does not prove that the tumor is not malignant, and a case of this nature should be kept under observation, and examined at frequent intervals, so that any change in its nature may be noted.

When taking the specimen for pathological study, it should be taken near the edge of the growth or ulcer, in order that the healthy epithelium may be shown side by side with the

neoplastic growth. Great care should be exercised in collecting the specimen not to squeeze or crush during removal, nor should the section be cut until properly fixed. When the surgeon insists upon a frozen section to save time, he must be prepared in some cases for an initial non-committal report, and wait for a more definite finding, and until the necessary number of days for the preparation of a paraffin section.

In my service at the Sarah Leigh Hospital, I desire to report a series of twelve cases of carcinoma of the rectum and recto-sigmoid. Their ages varied from thirty-five to seventy-one years; there were nine males, and three females. The train of symptoms enumerated varied from constipation and a sensation that the bowels were not thoroughly emptied, to severe pain with stools containing blood and mucus.

Of this number, five were brought to operation, and seven, on account of advanced age, weakness and metastasis, were given palliative care.

Two involved the ano-rectal area.

Seven the rectal ampulla.

Three the recto-sigmoid.

A preliminary colostomy was performed on three; colostomy and resection at the same time on one; a tube resection on one; abdomino-perineal resection on one; and sacro-perineal resection on two. The convalescence was satisfactory in four, and one was prolonged by fistula, and an abscess around the colostomy. The average stay in the hospital was from six to ten weeks. A check on the progress of these cases revealed that one died in fourteen months after operation; and the second is now living but shows metastasis after six years; the third is now living after seven years and is in perfect health, and the colostomy is functioning satisfactorily. The longevity of the others varied from eighteen months to two years.

Treatment may be classified under two main heads, surgical and palliative. Since it has been clearly established that in the beginning carcinoma is localized, radical excision appears to be the best prospect for a complete cure. Palliative treatment is distinctly indicated in all inoperable cases, and where operation has been refused, and in others of advanced age.

For surgery to offer a fair prospect of cure, a liberal portion of the bowel must be removed above and below the tumor together with the tissues in the area of the lymphatic spread.

Operability also varies with different surgeons in accordance with their selection of cases, experience and skill.

Rankin points out four factors that should guide you in determining the operative risk in carcinoma of the rectum. First, distant metastasis; second, diffuse lymphatic involvement; third, fixation of the tumor to adjacent vital organs; fourth, the pathologic classification of the growth according to Broders. Having reached a conclusion, from a careful study of these four controlling factors, that the patient is an operative case with a fair chance of success, you will be further confronted with the necessity of determining what type of operation is most suitable for the individual patient.

The choice of operation should be governed by the age of the patient, his general physical condition, and by the location and extent of the growth.

Perineal excision is indicated for neoplasms situated in the lower four inches of the rectum or at the anus.

Sacral excision accomplishes removal of the tumors in the ampulla and upper third of the rectum.

Abdomino-perineal (combined) operation is essential for cancer involving the recto-sigmoid region.

Resection in one or two stages meets the indications for neoplasm in the sigmoid proper. Of course, the ideal operation is complete resection, and the formation of an artificial anus in one stage, but such a procedure is applicable in only a small group of early cases in which obstruction has not taken place, and when the physical condition of the patient is good.

In cases where the foregoing methods cannot be used, the next best, and only curative measure known to possess any virtue is deep roentgen ray therapy or radio-therapy. The use of radium may be carried out in three ways, as follows: tubes, needles, and seed implantations, and at times it may be found advantageous to combine all three methods. Indeed some of the most signal and beneficial results have been obtained through an associated use of both radium and surgery.

Bear in mind, however, that there is no routine method of treating rectal cancers with radium, nor is there any uniform dose applicable in all cases. You must be guided by the location, the extent and degree of malignancy. The type of radium application suitable for rectal growths must be capable of exerting sat-

isfactory influence upon the tissues, exactly as when applied to tumors in other parts of the body. Then too, these applications must lend themselves to an uniform and adequate irradiation of all malignant cells in these inaccessible tumors. At the same time the application must be so made as not to produce undue reactions.

While a review of the cases treated by irradiations up to date has only shown a limited field of usefulness, the results obtained prove beyond contradiction that it is worth while, and much benefit has been derived from its use. Especially in the class of cases who ultimately must die from the disease, great relief has been afforded for many months, and even years, by palliating the symptoms, and making the declining days more bearable. If perseverance and work are carried forward, this wonderful agent may bring showers of blessings to mankind as the technique improves.

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Sarah Leigh Clinic.

X-RAY IN COMMUNITIES REMOVED FROM MEDICAL CENTERS.*

By JOHN W. ROBERTSON, M. D, Onancock, Va.

Is X-ray for diagnosis justifiable in the smaller communities removed from medical centers? Is there a necessary bridge connecting the general practitioner with the full time X-ray specialist in centers of medical education? As a general practitioner of twenty-one years' standing, who has done X-ray work for

some ten years as a semi-specialty associated with my general practice, I am convinced there is a necessary gap to be filled in those sections removed from medical centers. I would preface my remarks with the statement that no general practitioner has sufficient clinical material in his own private practice alone to justify either the financial outlay, nor the variety of cases necessary to supply that experience which is necessary in the interpretation of the films. It is only through the cooperation and encouragement of practically every one of you that I have been enabled to carry on. For this cooperation and encouragement I am deeply appreciative.

In the short time allotted to me I desire to make a quick trip through the different phases of "X-ray for Diagnosis" and to illustrate each phase with appropriate films. Naturally I shall have to cut corners.

The first and probably most frequent aspect should come under Injuries. In these days of increased traffic and industrial expansion, it is simply appalling the number of accidents which each individual physician sees. When more or less centralized as in X-ray laboratories and hospitals, it is even more apparent. In fact, physicians are becoming more or less "accident minded" and often view with inward misgivings that which to the laity appears innocent sport, yet potentially an accident from the physician's standpoint. But who of us has ever gotten over that peculiar tugging at our heart strings when a poor child is rushed to us mangled? Accidents like most illnesses are seasonal. Most shootings and cuttings are early Sunday morning after a Saturday night carousal. I have often noticed that a great many industrial accidents occur on Monday. Is it due to clumsiness incident to having been out of employment since Saturday noon? As an interne, it was particularly noticeable that there was an influx of needles in fingers and lacerated hands on Monday. The time of day has a great bearing. The period of children going to and fro from school and just before supper when every one is hurrying home is a particularly dangerous one. Sunday afternoon is a favorite one for auto accidents. Each sleety period brings its quota of fractures with clock-like precision. Self-starters on cars have greatly lessened the Colles' fracture, while one of my accident series occurred in church where a girl dislocated her jaw while eating an apple.

*Read before the Physicians' Journal Club of the Eastern Shore of Virginia, at its monthly meeting held in the Northampton-Accomack Memorial Hospital, March 11, 1930.

The degree of head injuries is often among the most difficult to diagnose, ranging from fine fractures or cracks to complete driving in of portions of both tables of the skull and the loss of considerable brain tissue. Frequent or chronic headaches are often found to be caused by sinus involvement which was unsuspected until shown by X-ray. I have in mind numerous cases of arthritis which, although having apparently beautiful teeth, yet by X-ray showed either abscess or submerged roots which were not suspected as being present, the removal of which was followed by complete clearing up of the arthritis. Acute mastoiditis has been picked up and just recently there was a double mastoiditis which came to operation and checked beautifully with the X-rays. Spine injuries are more frequent than would be suspected, numerous old healed lesions have been detected, while recently there was admitted into the Northampton-Accomack Memorial Hospital a case with dislocation and fracture of the axis and atlas.

I remember one night a Negro was brought to my office with a bullet wound in his neck with a history of having been shot from a level. He was extremely shocked and apparently moribund. However, after stimulants and morphia and atropine were administered, he rallied and I hurriedly X-rayed him from his neck to his abdomen, as he complained of severe pain in his abdomen. I did not see the bullet but the next day after having sent him to the hospital I again X-rayed him and found that the bullet was in the only quarter inch of his anatomy which I had failed to cover, namely, in a portion of his lung. He developed both emphysema and empyema and in due course of time his empyema was drained. It was noticed that he also drained some turnip soup from the empyema wound. After giving him a barium meal, that also was traced through his lung and out the empyema opening. He had been shot from above, the bullet had traversed the esophagus, through and into the lung and with the consequent mediastinal abscess and empyema. He died after several weeks. The wonder is he lasted that long with the mediastinal abscess.

Early tuberculosis of the lungs is very often a matter of personal interpretation, especially in borderline cases, but an X-ray is to be desired and is especially helpful in checking up on the progress of the disease. The coopera-

tion of the State examiners holding chest clinics, has been especially helpful and has afforded a good opportunity for checking the clinical as compared with X-ray findings. Subsequent checking with the State Sanatoria has also been of invaluable aid, notably with Dr. J. B. Nicholls, of Catawba Sanatorium and with Dr. Harper.

It is interesting to note heart enlargements, also aneurysms of the aorta. The fluoroscope is especially helpful in the latter. Two of my cases in particular were recently explained when aneurysm was demonstrated. I must confess that clinically I am weak on detecting aneurysm but when you see it with the fluoroscope you are greatly enlightened.

While on the subject of heart and lungs, I will mention a case which I recently had in which there was a spontaneous and complete collapse of the left lung; the heart was completely shoved over to the right, so much so that on first sight it would appear the film was simply reversed from a normal. It was interesting to watch under the fluoroscope and by films the gradual return to normal. I hope in the future to report this case more in detail.

Carman¹, late of the Mayo Clinic, said—"The examination of the stomach has become one of the most important developments in X-ray work." He also quotes Mayo² that "only one in ten with gastric symptoms has a gastric lesion," the rest are due to "extrinsic conditions." This would remind us that although an X-ray is strongly to be advocated in obscure gastric conditions, yet we must not be surprised to find a great many of them negative by X-ray. The study of the duodenal cap is a specialty in itself. A most outstanding work in this connection has been reported by Dr. Joseph Diamond,³⁻⁴ of New York City, under whom it was my pleasure to have had a short intensive course in interpretation. He has beautifully demonstrated the duodenal niche in duodenal ulcers after administering tincture of belladonna previous to X-raying. X-ray is not only valuable in demonstrating carcinoma of the stomach, but also aids in determining whether by its location it is operable or not. Chronic appendicitis has been demonstrated in several of my series which were confirmed by operation. Kidney and bladder stones are demonstrable if they contain lime salts, but uric acid stones do not show. As-

sociated with cystoscopic examinations, instillation of solution of sodium iodide outlines the pelvis of the kidney and the ureters and enables one to detect pathology in the urinary tract which cannot be confirmed in any other manner. (N. B. Since the above was written there is now an intravenous substance on the market, Uroselectan, which enables one to outline without cystoscopy.) Likewise they rule out suspicious shadows which simulate stones but are found to be extraneous to the urinary tract. Gall-stones are likewise more demonstrable if they contain lime salts. The oral administration of special dye materials and the outlining of the gall-bladder is one of the outstanding radiological discoveries of a decade. (Uroselectan bids fair also to become popular, i. e., for the urinary tract.)

Foreign bodies in the upper air passages and lungs are more frequent than would be supposed. I have had a series of eight (8) cases, among which was my own little girl, who have aspirated foreign bodies in their upper air passages. Briefly, they give a history of having choked, possibly for only a few moments, some becoming blue, others apparently choking. Very shortly they become croupy, develop fever, a peculiar brassy cough, and finally pneumonia, if the offending matter is not removed. My cases have included portions of apple, peanut, false teeth, tooth paste cap, etc. Transparent objects, such as peanuts or apple, do not show by X-ray, but there is a certain delay in the air entering the affected side which is characteristic of foreign bodies in the bronchus. Professors Chevalier Jackson and Gabriel Tucker, of Philadelphia, removed the foreign bodies in each instance. I will also add that organic matter such as an oily peanut or the skin of apples does more harm than metal objects, due, as I understand, to a chemical or decomposing irritation of the organic material. I can picture in my mind a colored child who was seen by three of us some years ago. It presented the appearance of a possible diphtheria of the windpipe. However, all cultures were negative and the antitoxin did no good. The child continued the brassy cough for some weeks. I am not sure, but think it recovered after a long illness. I am quite sure now in the light of my subsequent experience that the child had a foreign body in its air passages, and that an X-ray and possibly a

bronchoscopic examination would have revealed the same.

In conclusion it is my impression that X-rays are of inestimable value to the general practitioner. They are not infallible and should always be interpreted in the light of the clinical history.

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MEDICAL SUPERVISION OF AIRPLANE PILOTS.*

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Aviation medicine is a specialty of ever-increasing importance due to the demand for safety in flying of those who operate and patronize all types of aircraft.

Especially is this appreciated when we consider that within the fiscal year 1930, 43,902 physical examinations were given airplane pilots of all classes by the Aeronautics Branch of the Department of Commerce. Of 22,606 original examinations of students, 1,435 were disqualified. Of 12,402 pilots and students re-examined, 100 were disqualified. And among 6,193 re-examinations for a higher grade of license, 19 were eliminated. A total of 81,349 examinations have been given since 1926¹.

In the United States there are now over 14,500 licensed pilots, and over 7,000 licensed planes. There were 18,700,000 airplane miles flown in 1926, while in 1929 there were 125,000,000. Miles of airways in operation in 1926 totalled 8,404, and in 1929, 36,000. Mail carried in 1926 amounted to 810,000 pounds, and in 1929, 7,700,000 pounds².

Moreover, as statistics show that about 60 per cent of all aircraft accidents are due to some deficiency of the pilot, medical examiners must be on the alert to eliminate physically unfit and emotionally unstable applicants for pilots' licenses.

Physical standards for airplane pilots, as specified by the Aeronautics Branch, are the

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result of over 15 years of research and practical experience in flying, and are universally accepted. Two general classes of physical standards are recognized, one for transport and military pilots, and one for private and sport pilots. Applicants for student permits have to pass a satisfactory physical examination before they are allowed to begin their flying instruction under licensed pilots of transport grade.

The Air Commerce Regulations require a complete annual examination for all classes of flyers and, in addition, a semi-annual physical check of transport and limited commercial pilots (the passenger carrying grades) in order to retain their licenses. Also each pilot who is injured in a crash has to be certified as physically and emotionally sound before he can resume flying. Several large air transport companies employ flight surgeons who examine all of their pilots monthly, and keep them under constant medical supervision, thus being able to detect any physical or emotional defect when it first appears and thereby avoiding fatal accidents.

A brief summary of the physical requirements for airplane pilots is all that the time allotted to this paper will permit. These may be divided into six main groups as follows: general physical examination; nervous system; eyes; ear, nose and throat; equilibrium; and estimate of aeronautical adaptability.

The general physical examination includes medical history, heart, lungs, abdominal viscera, endocrine system, genito-urinary system, and mobility of joints and muscles. An ankylosed elbow may interfere with working the stabilizer or handling the stick, while ankylosis of an ankle or knee may prevent proper use of the rudder or brake. A hernia may become strangulated and therefore is cause for rejection. Acute diseases are disqualifying until they subside. Chronic respiratory conditions such as asthma, emphysema, bronchitis, tuberculosis, etc., disqualify because they mean decreased resistance and decreased lung function, and may become suddenly disabling, as in the case of asthma. Syphilis is disqualifying because of the danger of cerebrospinal or cardiovascular complications developing. Functional disorders, such as gastric neuroses, must be considered in the determination of nervous stability.

According to Dr. L. H. Bauer,² Medical Director, Aeronautics Branch, and an authority on aviation medicine, the nervous system is one

of the two most important parts of the examination of flyers. Psychotics and epileptics, and those with psychoneurotic and epileptoid equivalents must be found and eliminated. A detailed personality study is made into the entire past experience of the applicant with a view to disqualifying the emotionally unstable, the person who goes to pieces in an emergency, and the individual who reacts too slowly to avoid approaching disaster³. By means of the general physical and the nervous system examinations, "staleness," otherwise known as the effort syndrome or neuro-circulatory asthenia, is discovered. This may be manifested by fainting while flying. History of amnesia, whether the result of traumatism or following periods of alcoholic intoxication, should be carefully elicited from the applicant, and if it exists he should be disqualified.

The examination of the eyes is very important from several standpoints. The most important visual function, according to Bauer,² is the ability to judge distance correctly as this is absolutely necessary in formation flying, taking off, and in landing, where distance must be judged from the ground, trees, poles, wires, buildings, and other planes. This depth perception is a binocular function and good stereoscopic vision is required. Normal vision without correction is essential in the military and passenger carrying pilot, but minor defects of vision, if corrected to normal, may be permitted in private and student pilots, although it is poor policy to allow anyone to fly who is totally dependent upon correction for good vision. The airplane pilot must have good peripheral as well as good central vision, and if he wears glasses under his goggles his field of vision is much restricted and is similar to a horse wearing a blinder. Frequently a pilot has to remove his goggles (made with corrective lenses) when they are smeared with oil or become misted, and without normal vision he is in a dangerous way. Good color sense is required, for the pilot must be able to detect navigating, airdrome, and signal lights, colored signal panels, and the shades of green and brown on his maps indicate the terrain over which he is flying. Ability to accommodate quickly from far to near vision is needed to read his map and instrument board and to observe objects on the ground and in the air. Abnormalities of the fundus and media are found with the ophthalmoscope. Ocular muscle balance is also considered, for moderate degrees of heterophoria

interfere with judgment of distance and cause headaches which result in carelessness and inattention.

Under conditions of the ear, nose and throat, hearing sufficient to detect radio signals and carry on ordinary conversation is required if no disease exists. Diseases of the ear, mastoid, nose, and throat lower resistance and are liable to become acute if the pilot is exposed to cold and fatigue, and are disqualifying. Nasal and throat obstructions should be corrected as they interfere with breathing, and deep breathing is imperative in high altitudes.

Equilibrium is determined by the Romberg, modified Romberg, the gait, and self-balancing tests, and to quote Bauer, "anyone who can perform all of these tests satisfactorily can have no lesion in his proprio-ceptive mechanism worthy of note." The Barany tests have been discontinued as unnecessary. Equilibrium is maintained by sensations received from the eyes, the vestibular apparatus, muscles, joints, viscera, and tactile sensations. Flyers depend on their eyes to maintain their plane level, and when the horizon is gone, as in a fog or above the clouds, they are helpless without instruments.

Aeronautical adaptability of an applicant is determined by the results of the whole examination, the personality study in particular³. Bauer states that not even everyone physically normal can learn to fly. However, the more thorough the examination of an applicant the better able are we to judge his adaptability for flying. Reaction time is of great importance, but further work must be done on the Reid and Ruggles apparatus before definite conclusions can be reached as to their practical value.

Experience during the World War taught the allied armies that numerous flying casualties resulted from defects overlooked by the ordinary physical examination, hence a more rigid standard was then adopted with better results, and is now considered essential to safe flying.

Cooper⁴ and Bauer have recently studied the progress made by over 9,000 student pilots with and without physical defects, including those without previous training and those who had advanced to private or higher grades or had thirteen months in which to do so. They conclude that a man's ability to learn to fly decreases directly with the increased seriousness of his physical defects.

The same investigators next studied all civil

aircraft accidents in physically normal and physically defective licensed pilots, and they found that the accident rate was much higher among the defective group during 1927, 1928, and 1929. The 87 per cent of normal pilots produced only 81 per cent of accidents, while the 13 per cent of defective pilots caused 19 per cent of accidents. The fatality rate for the three years was 1.55 per cent in normal pilots, and 2.36 per cent in the abnormal. These studies demonstrate that the physical standards are not too high for civilian pilots when the safety of many lives is considered.

Many facts of interest to medical examiners were discovered by this study of thousands of physical examinations, and some of the most important follow.

Systolic blood pressure in applicants 18 to 25 years of age is often above the normal due to fear of the first examination and nervousness at the time, yet nothing could be found to explain the cause of the nervousness. On subsequent examinations these young people showed normal pressures. It was found that a systolic pressure of 100 mm. or less was a poorer risk than a moderately high one, as these persons seemed to be of the fainting or asthenic type. Reaction of blood pressure to exercise is an important test, for normally the systolic should rise and the diastolic remain constant, while if the systolic falls after exercise, vasomotor instability is indicated. Return of the pulse rate after exercise, to the rate it was before exercise, is also of more importance than the rate itself. A systolic murmur without other evidence of cardiac insufficiency may be disregarded.

As a result of the Department of Commerce annual and semi-annual examinations of civilian pilots, hundreds of physical defects have been corrected, and the health of many persons has been benefited and preserved to safe flying. "Staleness," or neuro-circulatory asthenia, results from fatigue due to too much flying, exposure to extremes of weather, and stress of mind and body, and the medical examiner should prevent this condition among pilots by insisting on proper rest, regular habits, and exercise. Bauer believes that the Aeronautics Branch has prevented many crashes by eliminating physically defective applicants on the first examination, and defective pilots on the routine examinations, the rest being up to the aircraft companies who should enforce constant medical supervision. The extreme importance of such supervision is shown by the fact that only 7

per cent of all air accidents occurred in legitimate transport flying by licensed pilots in licensed planes over regular airways with landing fields and lights. One fatality to each 1,042,000 miles flown in air transport is recorded, while one large company recently reported 3,000,000 miles flown without a death.

Medical examiners are also concerned with the effects of high altitude and high speed on pilots⁵. Flying over mountains is often necessary, while combat, reconnaissance, and photographic work usually require very high altitudes, 30,000 feet being reached in formation flying on the West Coast recently in the Air Corps maneuvers. Deeper respirations and greater volume of breathing per minute cause increased aeration of the blood. The heart beats faster, and the systolic and diastolic blood pressure may rise or fall, or one or both may break sharply, resulting in fainting. The average person loses consciousness at about 25,000 feet and, to prevent this, oxygen should always be used above 18,000 feet.

The record for high speed in an airplane is 365 miles an hour, and yet as this was made in straight ahead flying, little or no harmful effect was noted by the pilot. But if turns at high speed are made, the centrifugal force produces cerebral anemia and unconsciousness. Retinal hemorrhages and possible brain injury have resulted from a pilot pulling his plane up after a dive at 250 miles an hour.

SUMMARY

It is evident from the above facts that the special physical examination, as set forth by the Department of Commerce, is absolutely necessary before anyone should start flying instruction, and also that constant medical supervision is needed to keep pilots in the best possible condition to withstand the effects of high speed, high altitude, intense cold, violent winds, marked glare, continuous disturbance of equilibrium, and fatigue due to physical, mental, and nervous stress.

Safety in flying, to a very large extent, depends upon the physical perfection, mental alertness, and nervous stability of the pilot, and, therefore, we, as their medical guardians, must select only those who conform to the prescribed standards, and see that they keep themselves fit to master any emergency in the sky.

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HEART DISEASE AS A SURGICAL RISK.*

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The subject involves a consideration of the heart and of the proposed surgery. Knowledge of the condition of the heart is obtained through the history, symptoms and signs, the electrocardiogram, the X-ray, and from circulatory features other than the strictly cardiac.

The points in the history that should arrest our attention are cardiac pain or pulmonary edema, dyspnea on exertion, rheumatic fever and syphilis.

The symptoms and signs that are of special importance are dyspnea, cough, cyanosis, rales at the base of the lungs, a palpable liver and edema; on direct cardiac examination, displacement of the maximum apex impulse, abnormality of the heart sounds, murmurs, more especially diastolic murmurs, friction rub, increased cardiac dulness with obscurity of the heart sounds, and in the pulse an abnormal rate, rhythm, volume, or character in the sense of the length of time it is sustained.

The more common electrocardiographic findings of significance are auricular fibrillation, heart block, right ventricular preponderance, and the changes in the neighborhood of the T-wave indicative of myocardial degeneration or coronary thrombosis.

The X-ray is useful chiefly in determining the size of the heart and aorta, and the presence of pericardial effusion or adhesions.

In the circulatory system beyond the heart itself, the recognition of aneurysm, the degree of arteriosclerosis, arterial blood pressure, especially diastolic, venous blood pressure doubtless if it were better understood, and the

*Read as part of a symposium on Heart Disease before the Richmond (Va.) Academy of Medicine, September 23, 1930.

functional condition of the kidneys are all so intimately connected with the heart as an element of surgical risk that they cannot be left out of account.

Out of this mass of available data and others not mentioned, a working idea is to be reached as to the capacity of the heart to stand surgical procedure. To keep the most important in the foreground and employing synthesis to yield symptom complexes, we arrive at the recognition of true cardiac pain, pulmonary edema or broken compensation, gross enlargement, mitral stenosis, aortic dilatation or aortic valvular insufficiency, and plain cardiographic evidence of myocardial degeneration.

The American Heart Association has urged that a diagnosis of heart disease shall include an understanding of etiology, pathological anatomy and physiology, and functional capacity.

As unsuited to stand the strain of surgery, etiologically speaking, it is the heart congenitally defective, or affected by bacteria, the treponema pallidum, the rheumatic toxin, an overactive thyroid gland, or the wear and tear of life.

Anatomically speaking, it is the degenerated heart muscle, the enlarged heart, the heart with a blood supply impaired by coronary disease, and the heart with seriously damaged valves.

Physiologically speaking, it is the heart with inadequate nutrition, with chambers that no longer coordinate, with conduction fibres that imperfectly convey the auricular impulses to the ventricle, less frequently one with a fault of ventricular contraction *per se*; some defect of synchrony or sequence, or of ventricular force.

Functionally speaking, it is the heart which has suffered anatomical and physiological impairment to make it, as a pump, insufficient to meet the demands of the circulation plus a surgical load.

The practicing physician does not consciously pursue the train of thought outlined. These particularities he laboriously acquired in lecture halls and clinic, reproduced them in answer to examination questions, and later in a rougher school of experience, fused and shaped them into a relatively few working concepts.

The loudness of a heart murmur or the rate

of the heart beat are not in themselves sufficient to determine the surgical risk.

The patient with a history of angina pectoris, pulmonary edema or previous broken compensation, with syphilitic aortitis, rheumatic mitral stenosis or aortic leak, cardiac hypertrophy, the "E K G" of myocardial degeneration; the wheezy, dyspneic, cyanosed or bloated individual; inelastic arteries, high blood pressure or pressure that should be higher but for a failing heart muscle; the elderly, the mere fact of having lived long and become worn, these we know are not favorable subjects for surgery.

This is the side of the question with which the physician is most concerned. There is the other side which taxes surgical judgment. The questions involved are as many and as nice as the heart itself presents. What is the purpose and character of the proposed operation? Is it elective or imperative? If imperative can it wait on an attempt to improve the heart condition by rest, diet, and medication? Can the hazard be lessened by a judicious selection of the anesthetic? If the operation is successfully performed, will it accomplish not only its primary object, but perhaps benefit or protect the heart itself for the future? What are the patient's sufferings, his work, and his responsibilities? The answer to such questions cannot be put in textbooks and can come only from surgical experience. A mole may be removed extemporaneously; a perineal repair may be postponed till after the menopause; and an abdominal emergency may not wait on the surgeon's convenience.

The variety in heart disease and the gradations in surgical undertakings afford a series of combinations approaching infinity. Our subject, then, is one involving relative values. We can hardly hope to do more than arrive at a reasonable attitude. This can best be done by illustrations.

If a rheumatic endocarditis is recognized, given even a history of decompensation, and the tonsils are manifestly the site of chronic infection, the risk usually should be taken and the tonsils removed to prevent further damage to valves, myocardium or pericardium and the other sequelae of tonsillar infection. But the time of election would not be during an acute exacerbation of tonsillitis, and much of the

risk may often be avoided by appropriate pre-operative treatment and postoperative care.

The pain of coronary thrombosis, with its slight fever and leucocytosis, may be mistaken for an abdominal condition amenable to surgery and a major operation needlessly done at a peculiarly unfavorable time. On the other hand, an impaired circulation may require as the most promising chance for improvement the removal of a septic gall-bladder.

A rapid heart, not excepting auricular fibrillation, if thyrogenic in origin, represents one of the clearest instances in which boldness in surgical judgment offers the patient the maximum of relief, provided again the time of election for operation is carefully considered and the full benefit from Lugol's solution and rest is first obtained.

The subject of each of the three examples appears to have found his way to the operating room. This is not to say, when in doubt, operate. An operative death is no credit to the surgeon and no advantage to the patient. Most people cling to life and prefer to tolerate a good deal of illness rather than take an undue risk of premature death. But given a surgeon with a due sense of the time element, he may usually be relied on, and his medical associate with him, to avoid operation altogether if the period of preliminary treatment does not reveal a reasonably safe risk. Heart disease as a surgical risk might well be held up as a red flag to a thoughtless or ignorant surgeon, but it would do little good. As for the capable and conscientious surgeon, the medical associate finds himself called upon to lend moral support in sharing the responsibility for action more often than he is needed to restrain a too-great daring.

There is, then, no formula for the expression of heart disease as a surgical risk. Whatever may be said of it by way of systematic discussion, the practice of it can rest on nothing more restricted than sound clinical judgment. The question often takes the scope of a philosophy of life and death. The surgeon is consciously or unconsciously guided by his own philosophy, but all his work concerns some individual. And when the gain and the risk of surgery are evenly balanced, his advice must be a resultant of his surgical wisdom and his human sympathy.

CARDIAC IRREGULARITIES.*

By J. MORRISON HUTCHESON, M. D., Richmond, Va.

Irregular action of the heart may or may not be of serious significance; hence it is desirable that its various forms be clearly differentiated. For this purpose the electrocardiograph furnishes the easiest and most accurate means, but the instrument is not always accessible nor is it necessary in the majority of cases. We are now at the point where most disorders of rhythm can be readily analyzed and classified by the careful clinician from simple bedside examination.

In order to understand any form of irregularity it is necessary to have in mind a clear conception of the essential features of the regular heart beat. The contraction impulse begins at the sino-auricular node, sometimes called the pacemaker, and spreads through the auricle whence it reaches the ventricle by the auriculo-ventricular bundle or bundle of His. The pacemaker emits impulses at rates which average from 70 to 80 per minute and, the separate beats being evenly spaced, the systoles follow each other in orderly sequence or rhythm. The pacemaker is influenced by the vagus, which normally exerts an inhibitory or slowing effect, and also by accelerator fibers which may increase its rate.

Disorders of cardiac rhythm are due either to disturbance of impulse formation or to interference with impulse conduction along the usual pathways in the heart muscle. The electrocardiograph explains such disorders clearly as it is a record of the course of the contraction wave from its origin to its destination. Clinical interpretation, however, is facilitated by classifying the disturbances commonly encountered and studying the physical signs presented by each.

In this paper I shall discuss briefly seven types of irregularity which are commonly seen. Most of these may be easily recognized from clinical examination, while any one may be suspected provided its essential features are kept in mind. Other types of arrhythmia do occur, but comparatively rarely, and also combinations of the commoner ones that can only be successfully analyzed by graphic methods.

1. ABNORMAL SINUS RHYTHMS. These are simple tachycardia, simple bradycardia and

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phasic arrhythmia, commonly called sinus or youthful arrhythmia.

Simple tachycardia results from various influences affecting the pacemaker through its nerve connections. Exercise, fever, emotion, tuberculosis, hyperthyroidism and atropine are common causes, as is myocardial weakness. Acceleration begins and ends gradually. The electrocardiogram shows normal complexes. Treatment, if required at all, depends upon the underlying condition.

Simple bradycardia is much less frequent than tachycardia and results from increased vagus tone. It occurs in the so-called vagotonic individuals, in patients on prolonged rest, during convalescence from infectious diseases and from affections of the vagus center in the medulla. It is to be differentiated from the several forms of heart block, but the rate in simple bradycardia is rarely slow enough to make this distinction difficult. The electrocardiogram shows normal complexes and atropine increases the heart rate by diminishing vagus tone.

Phasic arrhythmia is most marked in children but may appear at any age. As a rule there is an increase in heart rate during inspiration and a decrease during expiration, but the reverse may be seen. The phenomenon is exaggerated by deep breathing or by holding a deep breath,—a useful diagnostic point. At times the irregularity is so pronounced as to cause it to be mistaken for some serious disturbance. Herein lies its only clinical importance. It disappears on mild exercise or after the administration of atropine.

II. PREMATURE CONTRACTION OR EXTRASYSTOLE. These arise from irritable foci outside the pacemaker and, provided the adjacent muscle is in a receptive state, a contraction breaks in on the normal cardiac cycle. At times they may be so interpolated between normal beats as to resemble some sort of rhythm, for example, coupled or tripled beats where extrasystoles replace every second or third cardiac contraction. Auscultation of the heart usually reveals the faint extrasystole, following shortly after the normal sound, and succeeded by a longer pause and then the normal beat. Palpation of the pulse may show the weak extra beat, but as a rule only the long pause is made out in this way. By listening to the heart one can usually identify extra-

systole without difficulty. The electrocardiogram explains the disorder and indicates its point of origin.

Extrasystole is in itself of no diagnostic or prognostic significance. At it often occurs in diseased hearts, its presence indicates careful cardiac study. It apparently results from nervous and toxic causes and may be produced by digitalization. It disappears when the heart rate becomes rapid. Sensitive individuals not infrequently become uncomfortably aware of extrasystole and treatment is necessary. Reassurance and sedatives as a rule suffice, though they influence the irregularity little or none. Many remedies have been used and thought to be effective, though none is of undoubted value. Quinine and quinidin seem to control certain cases. Wiggers suggests potassium iodide. The writer is at present interested in the effect of cactus which appears to be definite. Digitalis may aggravate the condition, but the presence of extrasystole does not forbid digitalis administration when it is properly indicated.

III. AURICULAR FIBRILLATION. Of the cardiac arrhythmias, auricular fibrillation is one of the most frequent and the most important from the diagnostic and therapeutic standpoint. It is usually associated with decompensation or precedes it by a brief interval, though cases are not rare in which fibrillation is compatible over years with reasonably good cardiac function. It occurs in brief paroxysms of minutes to days or it may be permanent.

At present fibrillation is believed to be due to a self-perpetuating ring of excitation in the auricle, the so-called circus movement. As only a small number of impulses from the fibrillating auricle traverse the bundle and reach the ventricle, the ventricular rate may be considered to depend upon the degree of block in the junctional tissues. As many of these impulses reach the ventricle while it is partially refractory, incomplete beats that do not reach the radial pulse result,—the so-called pulse deficit.

The clinical characteristics of auricular fibrillation are complete absence of rhythm and pulse deficit. When the heart rate is rapid, the disorder is striking and can hardly be misunderstood. Occasionally the pulse deficit is so great as to show a very slow pulse with a very rapid heart. When the heart rate is slow, the condition may escape detection or be confused

with extrasystole. When there is doubt, fibrillation is usually present. Increasing the heart rate brings out this irregularity more clearly while it tends to abolish premature contraction.

Auricular fibrillation with rates above 100 per minute calls for treatment. It is usually accompanied by congestive failure and digitalis gives brilliant results. The drug acts by increasing the degree of auriculo-ventricular block and lessening the number of impulses that reach the ventricle. Consequently the ventricular rate is slowed, there are fewer incomplete contractions with lessened pulse deficit and the heart as a rule regains compensation accordingly. Digitalis does not abolish fibrillation but may serve to control the ventricular rate for long periods. In a minority of cases, without congestive failure or other grave myocardial disorder, fibrillation may be advantageously treated by quinidin which, by its depressant action, abolishes fibrillation and restores normal rhythm.

IV. ATRICULAR FLUTTER. This disorder depends upon essentially the same mechanism as fibrillation. The circus movements, however, follow a wider arc, thus allowing the refractory period to pass and causing regular instead of irregular auricular impulses. The auricle contracts at from 200 to 400 per minute and the ventricle responds to every second or third beat. Auricular flutter is closely allied to fibrillation but much less frequent. It is not unusual to find the arrhythmia changing from one to the other and the so-called impure flutter is often hard to classify. Like fibrillation, flutter may appear in paroxysms or it may be permanent and it usually means serious heart disease.

When a regular heart action persists at rates of 120 to 180, uninfluenced by rest or exercise, flutter may be suspected. Sometimes the ventricular rate is normal and here the disturbance in the auricle could only be detected if its rapid contractions were transmitted to the veins of the neck. As a rule, flutter can only be diagnosed with certainty by the polygram or electrocardiogram.

As in fibrillation, flutter requires treatment when the rate is rapid. Digitalization changes it to fibrillation and sometimes normal rhythm ensues. Quinidin often abolishes it but should be used with the same restrictions as in fibrillation.

V. PAROXYSMAL TACHYCARDIA. The onset and termination are abrupt, the heart almost or entirely regular, the rate from 180 to 220. Patients state that the heart seems to stand still and then beats at a terrific speed, returning suddenly, after minutes, hours, or days, to its normal rate. In most cases the disorder occurs in hearts not otherwise diseased and is not dangerous. Some patients are pale, breathless and prostrated during the attack, while others suffer little or no discomfort.

Paroxysms of tachycardia are believed to arise from irritable foci, either in the auricle, ventricle or junctional tissue, producing a series of rapidly recurring extrasystoles. Auricular tachycardia is the most common and the most benign. Paroxysms of ventricular tachycardia usually complicate infarct of the ventricle and may cause rapid heart failure.

Treatment designed to terminate the attack consists of various forms of vagal and orbital pressure, changes of posture, swallowing, or holding a deep breath. Full digitalization has been recommended. In my hands quinidin has seemed most useful both in the attack and as a prophylactic.

VI. HEART BLOCK. At any point in the course of the excitation wave delay or interference may occur. Hence we may by appropriate means recognize (a) sino-auricular block, (b) auriculo-ventricular block, (c) bundle branch block, and (d) arborization block. In sino-auricular block, impulses are suppressed before they reach the auricle, causing the dropping of single beats. The condition is usually the result of increased vagal tone, is often caused by digitalis and abolished by atropine. It is of little clinical significance and can only be recognized with certainty by graphic means. The term "heart block" usually refers to interference in the bundle of His. This may be a delay in conduction time, with or without the passage of all impulses to the ventricle, or there may be complete blocking of all impulses, the ventricle assuming its independent slow rate.

Partial block or increased conduction time may occur in acute infections, particularly rheumatic fever, diphtheria, pneumonia and influenza. It is also caused by digitalis and doubtless is frequently aggravated by this drug in the diseases referred to. Clinically it may show no signs, there may be occasional dropped beats, or beats may be dropped at

regular intervals. It is difficult to recognize without graphic studies. Partial block, except from digitalis, is practically always a sign of myocardial disease and may be the only objective evidence. This is particularly true in acute infections.

Complete block manifests itself by an abnormally slow rate, usually around 30 per minute, though at times the rate is not slow enough to be diagnostic. It is usually seen in cardiosclerosis and may result from syphilis, though this relationship has probably been over-emphasized. Though complete heart block may be compatible with years of fairly comfortable life, it is usually found in grave myocardial disease and the prognosis is poor.

When a high degree of block obtains with long pauses between beats, unconsciousness or convulsions may occur, the so-called Adams-Stokes seizures. Sudden death may result but is relatively uncommon. Block in the bundle branches or arborizations has no effect on rhythm and need not be considered here.

The treatment of heart block is generally that of the underlying disease. In partial block, digitalis should be used with caution, if at all; in complete block it can do no harm. Atropine may be helpful if there is a vagus factor, which is rarely the case. Where there are attacks of syncope or convulsions, adrenalin may increase the ventricular rate for several hours at a time. Barium chloride given regularly has also been found effective as it induces a sufficient number of extrasystoles in the ventricle to increase its rate materially.

VII. ALTERNATION OF THE HEART or pulsus alternans is a condition in which the left ventricle beats regularly but with larger and smaller output at alternate contractions. Its cause is unknown, though experimentally it may be produced by certain poisons. Alternation is a disturbance frequently missed as it cannot be detected by examination of the heart, nor does even careful palpation of the pulse always reveal it. It is brought out best by a pulse tracing, but the most generally useful instrument for its detection is the sphygmomanometer. By slowly releasing pressure after the first beat is heard, a halving of the pulse rate occurs for several millimeters.

When the heart is rapid, alternation is apt to be transient. With a slow heart it tends to persist and is always to be regarded as a sign

of grave myocardial deterioration or severe cardiac strain. It is said to result from digitalis poisoning. Alternation is chiefly of interest as a prognostic sign. It requires no special treatment but calls for every possible precaution to protect myocardial function.

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REPORT OF FOUR CASES OF TUMOR OF THE KIDNEY IN CHILDREN UNDER FIVE YEARS OF AGE.*

By JULIAN L. RAWLS, M. D., F. A. C. S., Norfolk, Va.

Norma Early, age twenty months, admitted to St. Vincent's Hospital, August 23, 1926; discharged August 23, 1926. This baby was apparently a normal baby. At about six months of age her mother noticed that her abdomen was larger than normal and apparently had a mass in it. From then on the mass continued to grow. She was seen by me about six months ago. At that time she had a large irregular mass in her abdomen. The greatest abdominal circumference was nineteen inches. A diagnosis of polycystic kidney, ovarian dermoid or sarcoma was made. An X-ray showed some shadows which were taken to be calcareous changes. After about six months' observation, the tumor was very much larger, the circumference of the abdomen was twenty-three inches and the child had stopped walking and gone back to crawling. It was decided to explore it. On physical examination the heart and lungs were negative. The abdomen was filled by a very large irregular tumor. It seemed to present more on the right side just below the liver; it was hard and had areas that felt cystic. The urinalysis was negative except for an occasional leucocyte. W. B. C. 17,000; SMN. 36 per cent; LMN. 2 per cent; PMN. 59 per cent; Eos. 3 per cent; coagulation time five and one-half minutes; red cells normal.

At operation a large cyst was seen post-peritoneal. It was tapped and about 2,000 c.c. of a clear fluid was removed. An attempt was made to remove the sac but it was found to be densely adherent to the ascending colon and the duodenum. The child's condition was reported bad by the anesthetizer so a drain was introduced into the sac and the abdomen closed. She re-acted from the anesthetic but died of shock three hours later. Autopsy showed a tumor lying behind the pancreas,

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containing bone and cartilage, apparently sternum and ribs. To this mass were attached several cysts, some containing clear fluid and one containing probably 100 c.c. of thick yellow sebaceous material. The mass was densely adherent to the upper abdominal organs. I am unable to say at this time whether this tumor originated in the right kidney or whether it was a retro-peritoneal teratoma without kidney involvement.

Leon DeHart, age twelve months, admitted to the Norfolk Protestant Hospital, September 16, 1929, from the King's Daughters' Clinic. The child had been carried to the Clinic because the mother had noticed about ten weeks before that there was a mass in the left side of the abdomen. It had grown rapidly and at the time of admission to the Hospital it practically filled the abdomen. The physical examination was essentially negative except for a bilateral enlargement of the inguinal lymph nodes and the mass which was described as filling up the left side of the abdomen, extending below the umbilicus and two fingers' breadth to the right of the mid-line. It was irregular and was reported as being freely movable. On admission he had a temperature of 103.4°. His urinalysis was negative except for a heavy trace of albumin and amorphous phosphates. It was clear of casts, epithelium, pus cells and blood. His blood picture showed Hgb. 44 per cent; R. B. C. 3,580,000; W. B. C. 32,800; PMN. 86 per cent; LMN. 5 per cent; SMN. 9 per cent. On September 20, 1929, the mass was removed by Dr. Gwathmey. The laboratory report is as follows: Left kidney, 160 x 120 x 80 mm. Weight 1,050 gm. The kidney contained a large tumor mass about the size of a cantaloupe. Renal tissue is spread out over one pole. The tumor tissue is confined for the most part within the kidney capsule but had broken through in several places as a fungoid growth. Most of the tumor tissue was soft, edematous and grayish white. Some parts contained deeply red areas. Microscopic examination: Sections from the more deeply colored areas resemble embryonal renal cortex, i. e., tubules surrounded by cellular tissue resembling a fibro-sarcoma. However, the tubular structures are very atypical. Few of them have a single layer of high columnar epithelium but most of them are surrounded by a mass of polyhedral cells with

round or oval hyperchromatic nuclei. There are many mitoses in these epithelial masses. Around these groups of epithelial cells there is an abundance of embryonal connective tissue, rich in round and oval nuclei, many of which are hyperchromatic. There are fewer mitoses in this tissue than in the epithelial

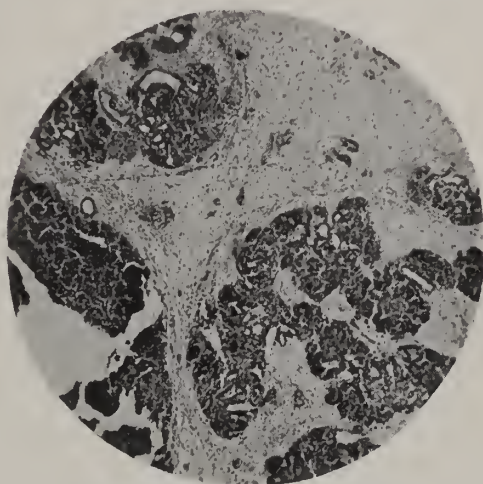


Fig. 1.—Section of tumor removed from Leon DeHart.
Diagnosis: Adeno-carcinoma. Fibro-sarcoma.

cells. The grayish white portions of the tumor consist largely of this sarcomatous tissue and contain only a few scattered atypical tubules. This is a mixed tumor, adeno-carcinoma and fibro-sarcoma. The child had a reasonably smooth convalescence and was discharged from the Hospital on December 9, 1929, his temperature having been normal for ten days. He was returned to the King's Daughters' Clinic with the statement that it was only a question of time before the growth would re-appear. His general condition improved, he put on weight, his appetite was good and he was apparently in excellent condition until the latter part of December when he began to go down hill. In a short time there was a palpable return of the growth. It was hard, nodular and slowly filled up the entire abdomen. He lost strength as the tumor progressed until for several weeks before his death he could not turn over in bed without assistance. At death he weighed twenty-two pounds, nearly half of which was represented by the tumor.

A post-mortem April 8, 1930, showed a large retro-peritoneal mass, consisting of many cystic areas separated by solid material which had no definite structural entity. There was no evidence of metastasis elsewhere. The liver

was normal, very little glandular involvement, apparently inflammatory. There was no evidence of involvement in the other kidney.

Ralph Piner, age three years, admitted to St. Vincent's Hospital June 29, 1927, with the following history: Last Tuesday patient fell while running. After this fall he began to complain of pain in abdomen and vomited that night. Mother gave an enema that seemed to give relief. Had cramping pains all night Tuesday and vomited again Wednesday morning; could not retain food. Cramping pains continued through the day Wednesday until his admission in the Hospital about 5 o'clock. Castor oil was given Wednesday morning with no result. His previous history had been negative except for an attack of whooping cough. On admission he had a temperature of 100°, pulse 160, urinalysis negative, W. B. C. 32,000; Polys. 89 per cent. His abdomen was very tense and an irregular mass could be felt in the left side. He was operated on with a diagnosis of intestinal obstruction but no evidence of obstruction was found. He had a large, hard irregular tumor apparently involving the left kidney. He ran a rather high temperature and rapid pulse and was quite sick until July 16, when his temperature dropped to normal. On July 17, 100 mgm. of radium was applied over the growth at different areas for eight hours. He left the Hospital July 18, 1927.

He was re-admitted to the Hospital on August 19, 1927. There had been no material change in the condition of the growth. He still presented a hard tumor filling up the left side of his abdomen from the crest of the ilium and extending well up under the costal arch. His urinalysis was negative, his W. B. C. 13,500; Polys. 81 per cent; R. B. C. 5,050,000; Hgb. 60 per cent. He was operated on the following day and a left nephrectomy done. A large tumor involving the left kidney and left adrenal, adherent to the peritoneum and the mesentery of the sigmoid was found. There were a large number of peritoneal glands, some containing yellowish deposits. The peritoneum along the diaphragm shows evidence of metastasis. The operative time was thirty minutes. He left the table in very poor condition and died eight hours later of surgical shock.

Pathological Report: The mass is firm,

ovoid, surface smooth, and is covered by a thin capsule that strips easily. It measure 6 x 4½ x 3½ inches. Microscopically the stroma is myxomatous and in it lie nests of small round and spindle cells. *Diagnosis:* Mixed cell sarcoma. (J. A. Wilkins).

Evelyn Louise Littlejohn, age twenty-three months, admitted to the Norfolk Protestant Hospital February 27, 1930, from the King's Daughters' Clinic, for diagnostic cystoscopic and X-ray study by Dr. C. J. Devine. Her chief complaint was a large mass, first noticed about six months ago, filling up the entire right side of her abdomen and apparently originating in the right kidney. Catheters were introduced to both kidneys. Both catheters dripped clear urine. Intramuscular phthalein



Fig. 2.—Pyelogram of left kidney of Evelyn Littlejohn.

returned from each kidney in about the same time. An X-ray was taken and pyelograms made. It showed a normal kidney with a normal pyelogram on the left side, that the right ureter passed up on the left side of the body to the outer side of the left ureter, and passed across the left kidney and ended in a tremendously dilated and badly distorted right renal pelvis. There was no definite outline of the

calices and apparently some of the calices were far out on the right side while others were indistinctly shown to the left of the mid-line. She had had no illness referable to this growth.

She was admitted to St. Vincent's Hospital April 2, 1930, and operated on April 3, 1930. At operation an incision was made along the border of the right rectus and the peritoneum opened. The left kidney was palpated and appeared to be normal and entirely free of the tumor mass. The liver showed no evidence of

not showed up in any of the Clinics here so it is presumed she has remained in good health.

Pathological Report: A nodular somewhat pear-shaped mass 16 x 14 x 14 cm. Surface covered by thickened hemorrhagic capsule.

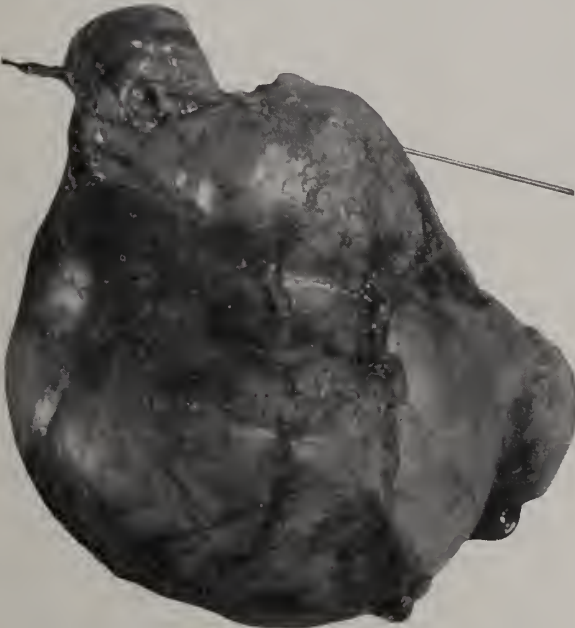


Fig. 3.—Right kidney. Probe in ureter. Evelyn Littlejohn.

any growth, the ascending colon was pushed over beyond the mid-line on the left. The reflected portion of the peritoneum was incised and the tumor shelled out from behind the peritoneum. This was very easy to do since there were very few adhesions to it and practically no blood supply except the vessels that came into the kidney pelvis. The kidney pedicle was ligated, the ureter tied, and the mass removed. The loin was drained through a stab wound in the back and the original incision closed without drainage. The child had an absolutely uneventful convalescence and left the Hospital on April 16, 1930.

She was told to report to the office for subsequent observation at least once a month. She came one month after leaving the Hospital and then disappeared. Her family moved and the follow-up nurse at the King's Daughters' Clinic has been unable to locate her. She has

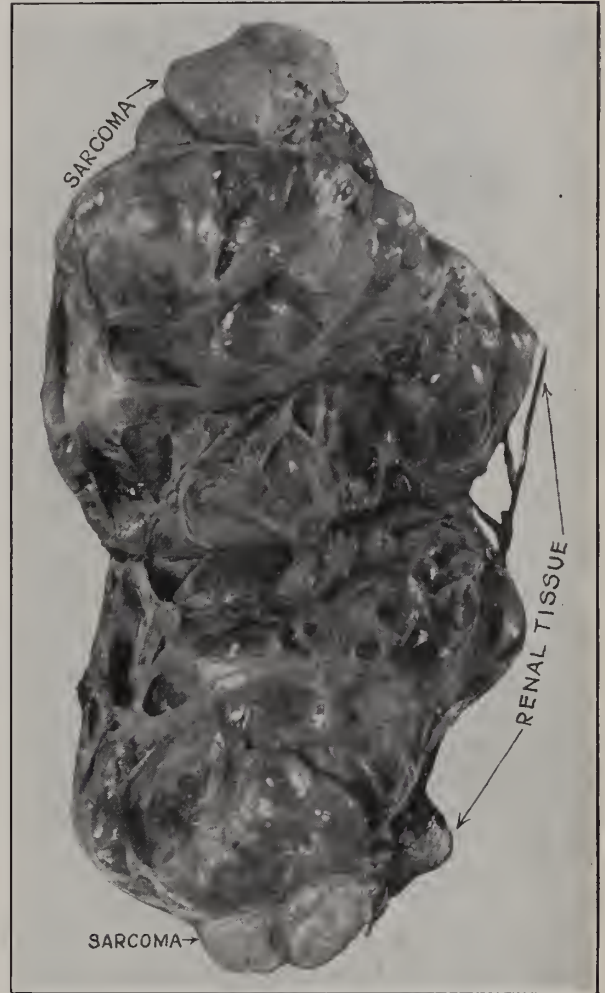


Fig. 4.—Right kidney. Evelyn Littlejohn.

Nodular masses projecting from the outer side of the lower pole about 9 x 9 cm., has cystic feeling. On section, cut surface shows bulk of tumor made up of multiple cysts, varying in size from .5 mm. to 12 cm. Cyst lining pale, grayish, smooth. Contents of cyst clear watery fluid. Projecting from the lower pole of the mass is a small piece of kidney tissue and the kidney pelvis. Projecting from this over the capsule is a dilated ureter. Probe can be passed down through and out the lower end of the mass. Upper pole occupied by a soft mass (softer than kidney tissue), cut sur-

face translucent, pale grayish, with many fine capillaries scattered throughout. Lower pole torn in handling.

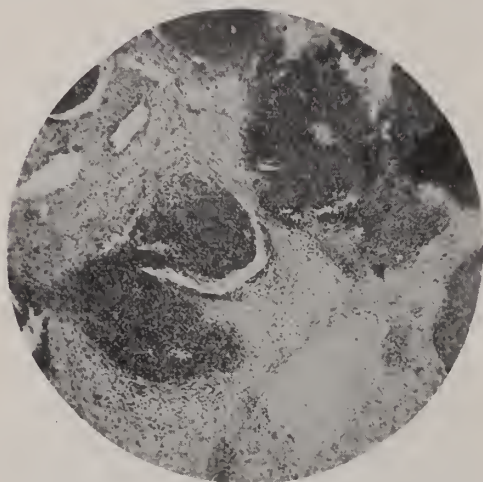


Fig. 5.—Section of tumor removed from Evelyn Littlejohn.
Diagnosis: Sarcoma in polycystic kidney.

Microscopical Examination: Throughout the capsule shows dense eosin stained connective tissue. The collection of small cysts is lined by columnar epithelium. Throughout the soft, spongy tissue attached to the kidney there is a diffuse mass of old cells with deeply staining granular nuclei surrounded by pale staining stroma. Section from tissue near pelvis shows a few renal tubules lined by cubicle epithelium. No hypernephroma cells can be made out. *Diagnosis:* Sarcoma developing in a polycystic kidney.

708 Medical Arts Building.

THE VALUE OF THE ROENTGEN RAY IN THE DIAGNOSIS OF LESIONS OF THE COLON.*

By CLAUDE MOORE, M. D., Washington, D. C.

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and Roentgenologist, George Washington University Hospital.

Although it is generally known that the roentgen ray can be of great help in the diagnosis of lesions of the large bowel, yet this method is too infrequently used by the average medical practitioner. It is not his doubt of its accuracy, but his lack of knowledge of the large variety of diseases that can be found with fluoroscope that prevents his using this method of examination. Possibly because he is not acquainted with the methods of examination, he considers it a minor surgical procedure.

Colon examination with the barium enema is no more difficult than taking a warm soap suds enema, and the ability of retaining the enema is less so. When the patient is well prepared and the colon empty, it can be filled all the way around to the ileocecal valve before the patient realizes that the examination has hardly begun.

The favorable impression that such an examination makes on the patient is surprising. He realizes that his physician is using every effort to determine the source of his trouble, and neurasthenics with their minds centered on their colons will be impressed even with negative findings of this complete examination. It is also surprising to note, in a large number of examinations, how many serious lesions are found that are giving only general symptoms with no localizing ones. Where this examination is routinely done in gastro-enterological cases, there is necessarily a large percentage of negative reports, but the number of unsuspected lesions found has taught the value of the examination. In the larger clinics and hospitals, so valued is the opinion of the roentgenologist, that it is seldom indeed that a patient is sent to surgery for lesions of the colon with a negative report from the roentgenologic section. In some cases the physician referring the patient for examination will have suspected only a minor condition, such as constipation, and a carcinoma will be found; and, on the other hand, the provisional diagnosis may be a malignant lesion, and the findings are negative.

Some roentgenologists not wishing to be inconvenienced with the enema method of examination will, from six to twenty-four hours later, follow the barium meal through the colon. For many reasons this method is very unsatisfactory and inaccurate. Parts of the small intestine still containing barium will overlap the colon and prevent complete visualization of the latter. The barium will be mixed with feces and will not cast an even shadow; parts of the colon contents will have become dry and segmented by peristalsis; the colon will be unevenly filled, and several examinations, hours apart, would be necessary to get a partial idea of each loop of the bowel. It is well to follow the barium meal through the large bowel after stomach examination, when a special colon examination is going to be made, but an opinion rendered by this

*Read at the sixty-first annual meeting of the Medical Society of Virginia, in Norfolk, October 21-23, 1930.

superficial examination is worth little. Diverticula filled with barium may show up more plainly and more frequently by this method than by the enema method. The barium may be worked into the diverticula more thoroughly by the peristalsis.

In order to obtain an accurate opinion, the preliminary preparation of the patient by the referring physician is very important. It is absolutely essential that the colon be entirely empty of fecal matter and not partially empty. The patient should eat lightly the day before, and take two ounces of castor oil the night previous to the examination. In colon fluoroscopy, no other cathartic is so effective as castor oil, and no quantity less than two ounces sufficient. No other cathartic will leave the colon empty so well as castor oil. The salines will leave the bowel filled with fluid, and the examination is all but impossible. The morning the colon is to be examined the patient should take several warm soap suds enemas until they are returned clear. Regardless of the results of the oil, there is always a certain amount of feces left in the region of the sigmoid which the enema will remove. It must be understood that fecal remains may cause filling defects that could be mistaken for tumors. A short time before going for the examination, a light breakfast may be eaten, because it will be several hours before it will reach the colon. Proctoscopic examination should never be made the same day. This will leave the rectum irritable, and the barium enema cannot be as easily retained. Frequently also, the proctologist will leave the lower bowel distended with air.

If the above instructions are followed there will be little inconvenience, difficulty, or embarrassment in the examination. Since the barium enema is less irritating and more isotonic than water, it will be more easily retained. The entire colon will fill slowly but gradually, visualizing every loop and portion to the ileocecal valve. It is well for the referring physician to impress upon the patient the lack of any pain or special discomfort during the examination. Many patients are upset more by the thoughts of the examination than by the procedure itself, for they often remark at the end, "Is that all?"

Except in a general way, what the fluoroscopist actually sees will not be given in this paper, because the referring physician will

have confidence in the opinion of the roentgenologist to whom he sends his patients, and he will accept his diagnosis. The roentgenologist should not be expected to demonstrate on films what he has seen in the dark room. Films are well to check findings and for records, but many conditions and lesions which are very evident on the screen will not show or be not at all convincing on the films. At one of the largest clinics in this country, so confident is the roentgenologic staff in the accuracy of fluoroscopy that films are seldom made on entirely negative colons. Due to temporary spasm, pressure from other abdominal organs, and peristalsis, filling defects may be caused that are strongly suggestive of lesions when seen only on the film. When lesions not found in the dark room are thought to be seen on the film, the best method is to re-examine the patient and pay special attention to that particular area. It is well always to re-ray all patients when the roentgenologic report does not agree with the other clinical findings. The wise roentgenologist will always want to see the patient more than once, when serious conditions are found and the diagnosis was not easily evident at the first examination. The percentage of error in roentgen examination of the colon, if done under the best of conditions as previously outlined, will be very small, certainly no more than 5 per cent.

The tendency in the past has been to find too much, rather than too little, in fluoroscopy of the colon. Conditions have been reported as pathological that the roentgenologist of considerable experience would consider normal. A roentgenologist with great experience in colon examinations will report only pathologic lesions, and seldom abnormal physiology. Doubtless, many cases of disordered functions are seen, but an attempt by the roentgenologist to diagnose these will increase his percentage of error and thereby decrease the confidence in his ability in the minds of the referring physicians. The appearance of the normal colon is almost as variable as that of the individual himself. For example, the sigmoid may vary from a few inches in length to three times the length of the descending portion. The size, shape, and position of the colon, in the normal state, is not often like the descriptions given in the textbooks of anatomy. To tell the referring physician that his patient has a visceroptosis of the transverse

colon is about the same as telling him that the patient is slender, thin, undernourished, and apparently underweight. Occasionally after an accident or a previous operation, either flexure is considerably lower than the average, but this condition is just as frequently seen in apparently normal colons. So little is known about the peristalsis of the normal bowel that, with a very few exceptions, it is never reported. One colon may be spastic and the patient suffer from constipation; another may be redundant and dilated and the patient have the same condition. Unless the roentgenologist is well trained in internal medicine and is well acquainted with the patient clinically, he had better restrict his reports to actual demonstrable pathology.

Congenital conditions are about as rare in the colon as elsewhere. Transposition of the viscera, and failure of rotation of the cecum are occasionally seen. In the latter the cecum and appendix will be found curled up under the hepatic flexure. Megacolon, or Hirschsprung's disease, will be immediately recognized by the large dilated colon, filling the greater portion of the abdominal cavity. The colon from the anus to near the splenic flexure, and sometimes part of the transverse colon, will be many times the size of the normal large bowel.

Often it helps the clinician to know what has been done at previous operations, whether anastomoses were made, segments removed, or from what part a draining sinus is coming. The surgeon appreciates all the advance information possible before doing an exploration.

Fluoroscopy of acute inflammations gives little information that is of value. Examination with this method is seldom necessary, and it is difficult for the patient to retain the enema. The most usual location is the rectum, and a proctologist can be of more service than the roentgenologist.

The most frequent lesions of the large bowel are diverticula, the majority of which are causing no symptoms and are discovered as incidental findings. Weber, who is head of the colon fluoroscopy of the Mayo Clinic, insists on two different words in naming these lesions. Diverticulosis denotes the presence of diverticula, and diverticulitis the presence of pockets with inflammation, causing spasm of the lumen of the bowel, tenderness and other localizing symptoms. Although diverticula

may be found in any part of the colon, the most usual location is in the sigmoid, the incidence decreasing as the cecum is approached.

Although the number of cases of tuberculous enteritis and amoebic dysentery is not large, by far the greater percentage of tuberculosis of the colon is in the cecum. On the screen this will show a hyperperistalsis and a ragged mucous membrane with more or less deformity depending on the age of the lesion. In old cases the cecum may be tied up in a mass of inflammatory tissue that may be difficult to differentiate from carcinoma. Tuberculosis in other parts shows about the same condition. Amoebic dysentery may be suspected from its location and the appearance of the ulcerations, but the diagnosis rests more with the history and laboratory findings.

Chronic ulcerative colitis is almost always recognized at roentgen examination. The absence of haustration, the contracted lumen, the thickened walls, often with polyposis, are almost pathognomonic of this condition. Recent articles by Weber and Barger will interest those wishing further information regarding this condition.

Fistulas between the other portions of the gastro-intestinal tract and the colon are more easily found with the enema than with the barium meal. With the enema there is better control of the barium stream, and the first entrance of the opaque media into the other viscus can be seen. Gastrocolic and enterocolic fistulas occur most often from gastric and duodenal ulcers perforating into the transverse colon. Diaphragmatic hernia may first be diagnosed by seeing the barium filled colon in the chest cavity.

Suspected tumor of the large bowel is the most frequent reason for fluoroscopic examination, yet unsuspected tumors are frequently found by this method. Cases of increasing or severe anemia, and recent and increasing constipation, should routinely be referred for colon ray. The most frequent benign tumors are polyps. Fecaliths and fecal impactions occur. Neither of these benign conditions can be demonstrated on the roentgenogram, because it is necessary to approximate the walls of the lumen by pressure and remove the barium. Carcinoma is seldom missed if the head of the barium stream is constantly watched. The roentgenologist actually seeing the location of the tumor can palpate the area

and determine the size, position and extent of the tumor better than the examining physician. He can decide whether it is intrinsic or outside the bowel wall, determine the amount of obstruction, and to some extent predict its ease of operability by the extension to other organs. Carcinomas suspected by the clinician and not found by a competent roentgenologist are usually not present, and the reverse is equally true.

The roentgen ray is of value in diagnosing lesions of the appendix. Except when specially requested few findings concerning this organ are worth reporting. To know if it has been removed at previous operations is sometimes requested, but unless it fills with barium no opinion can be given. When it fills its presence can be reported. When it is rolled between the examiner's fingers and the edge of the pelvis, and found to be tender, this circumstance is reported. The roentgenologic literature contains many articles describing the appendix as diseased if it fills with barium, if it fills irregularly, if it is segmented, if it fills partially, and if it does not fill at all. All of these conditions are probably wrong. In routine examination of the colon the appendix is not often found diseased.

Many other rare conditions may be met with in the fluoroscopic examination of the colon, but they are only of interest from a statistical standpoint. If the roentgenologist does not recognize them he should frankly admit his inability to do so. On the other hand, the referring physician must consider the roentgenologist as a consultant, equipped with highly specialized methods, and trained in their use. Being a medical graduate himself, the roentgenologist can give a much more accurate opinion if he knows all the clinical facts in each case, and he can, with the other consultants, aid the physician in charge to arrive at a correct diagnosis.

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THE BIOLOGICAL RELATIONSHIP OF EUGENICS OF THE DEVELOPMENT OF THE HUMAN RACE.*

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INTRODUCTION

Biology may be defined as the science of life and living things: it embraces the structure, function, and organization of living forms.

The bio-genetic laws define the fact that a certain drift or tendency directs the development of a being along lines parallel with a series of ancestral forms: that controlled and selective breeding may modify and change such tendencies, cannot be denied, and eugenics as applied to the human race seeks through education, and the limitation of defective lines to modify certain trends that have been found to be unfavorable to the progressive improvement of our race.

The reactions of many of the lower animals to a given condition may often be predicted if one is in possession of the line of breeding of the particular animal and has knowledge of his previous environment. For instance, we can foretell with reasonable certainty the actions of a pointer in the field, and we know also what his approximate reaction will be upon finding a covey of quail. And so it is with the human species: if one knows something of an individual's ancestry and has a fair knowledge of the conditions under which he has lived, one may forecast with reasonable accuracy what that individual's reaction would be under certain conditions.

The sum total of reactions, if they could be integrated, would represent the influence of inheritance, training, and environment. This hypothesis on the face of it appears uncomplicated, and if the behaviour problems of the human race—and after all that is the thing which concerns us most—were soluble from a practical standpoint at the intellectual level of the mind, our racial troubles would soon disappear.

We know, or think we know, the necessary groupings of mental qualities and physical characteristics in a mating, requisite for the production of normal offspring, and our failures in reproduction, which are so astoundingly apparent on all sides, result from our inability to practically apply the knowledge we have acquired through our successes with controlled

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and selective breeding in the lower animals. Contrast the gigantic failures in the human family, where sentiment is the controlling factor in the selection of mates, with the certain physical markings and qualities that may be produced by controlled mating in the equine, the fowl, or the canine families.

It seems that we have not yet arrived at that advanced point in our progress of thinking where people generally would sit down and reason this out and practically apply it. I do know, however, from personal experience that there is an increasingly large number of intelligent people contemplating matrimony, who come to me for confidential eugenical advice, and who are very earnest and very sincere in their efforts to secure some light upon the probable results of such and such a mating. These instances, while all too rare, are nevertheless most heartening and bode well for the future.

ELEMENTS OF MAN

We speak of man today as the product of modern civilization. This is a somewhat erroneous conception, as he has unquestionably arrived at his present status through millions of years of toil and struggle, and from a beginning, which was perhaps as uncomplicated and infinitesimal in its structure as are the simplest forms of life upon the earth at the present time; so that his body and mind must possess something of the elements of thought, instinct, and structure of all that has gone before. Many of our cruder impulses are clearly animal in nature held in leash by inhibitions that have been developed through fear of unfavorable consequences to ourselves, and represent an effort to meet the requirements of the civilization in which we live. When inhibitions of some primitive instincts are broken down, as they often are, one may pay with his life for acts originating, no doubt, from the same elemental genesis as in the lower animals, and which are performed by them every day without serious consequences to themselves.

To the basic things of existence, such as life, death, reproduction, anger, fear, and many others, man is, therefore, both elemental and instinctive in many of his emotional reactions.

HISTORICAL LIGHTS ON THE HIGHWAY

The idea of eugenics is perhaps as old as the written history of the human race. The word itself is derived from the Greek *eugenos*, meaning well-born. The Spartans, as you will

recall, practiced a form of eugenics scarcely tolerable today; and crude and cruel though it was, it seems to have been the thing that enabled them to develop a remarkably heroic race; the weaklings in their young citizenry were eliminated by putting all children through such physical hardships that only the fit survived. The Romans also made attempts at racial improvement by casting their defective infants into the River Tiber or leaving them upon the mountainside to starve. And so the idea of elimination, by one way or another, of those who were expected to be disqualified for a certain standard of physical and mental perfection, has come down to us through a great space of time, and persists as strongly in the minds of people today as it did in the minds of the ancient Spartans and Romans.

Traces of these earlier efforts to preserve a healthy race may be found in the laws of Lycurgus, and in the present age somewhat similar customs are said to have existed among the South-Sea Islanders and also amongst a tribe of North American Indians, who were distinguished for their intelligence, strength, and physical beauty. Such efforts to preserve a healthy race, cruel as they may seem, were after all but the pursuit of natural laws: "the buds unfit to mature, fall; and the weaklings of the flock must perish."

We find mention now and then of those who in ancient times escaped these drastic measures. Such were occasionally preserved, for one reason or another, in the houses of Romans of high rank. Seneca refers to the blind imbecile, Fatua, who belonged to his wife; some by freaks of fortune filled exalted positions: Nero, Commodus, Elagabalus—undoubtedly imbeciles all—wore the royal purple.

Not until the dawn of Christianity, however, when sorrowing mothers brought their demoniac sons to the Divine Healer, is there any record, except in isolated instances, of special care, commiseration, or pity for these unfortunates. But from this time on there seems to have been a changed sentiment, and during the Middle Ages the imbecile and insane wandered unmolested over Europe and the Orient, often having the freedom of the castles of the great and being regarded as *les enfants du bon Dieu*. Confucius and Zoroaster in their writings both enjoined a special care of them, and during the reign of Edward II we find the following royal proclamation: "The King shall have the custody of the lands of natural fools, and tak-

ing the property of them without waste or destruction shall find them their necessities, and after the death of such fools, he shall render the same land to the right heir, so that such idiots shall not become alien or their heirs disinherited, and a portion shall be distributed for a soul upon advice of the Ordinary."

Then the pendulum again swung backward, and persecution followed fast upon the heels of superstition. In the days of the Reformation we find Martin Luther and John Calvin denouncing the insane as possessed of the Devil, and not until the 17th century was there any organized effort for their care. This movement had the cradle of its birth at Bicetre, the great asylum of Paris, and was initiated through the efforts of St. Vincent de Paul and carried forward by Seguin, Rosseau, Itard, Voisin, Vallee, Ferrus, and other great Frenchmen.

We are justified, therefore, in crediting France with the beginning of this newer and more humane conception of the public's duty towards its unfortunates. Out of the experiment at Bicetre arose the policy of segregation of the mentally unfit in institutions to themselves, and with this was finally associated the conception of segregation as a means not only for humane care but also as a method for the prevention of reproduction, this being regarded up until the last quarter of a century as the only legitimate eugenic procedure.

With advancing knowledge in biology, however, and through experimentation in the breeding of lower animals, much new light has been thrown upon the subject of inheritance and many theories, some scientifically proven and others still the subject of much debate, have been developed. The most important insofar as we are concerned at the present time are the theories of the transmission of mental qualities through the media of the genets on the chromosomes, and the certainty of being able to maintain a given set of physical markings, the quality of motor activity, and instinctive reactions, in the lower animals by controlled and selective breeding. The pure-bred Holstein cow, for instance, invariably has certain colour markings, without which she is not pure-bred and cannot be registered: these markings are as persistent in the line as the eternal hills, and any slight deviation from the pure breed will change the markings.

The horse may be bred at will to serve the plow or the race track: and in each instance

specific qualities of strength, speed, and intelligence are controlled and transmitted.

SOCIAL REFLECTIONS OF EUGENICS IN THE MODERN WORLD

Society for convenience of reference may be divided into three great classes, commonly referred to as the upper, middle, and lower, and under these are numerous subdivisions with in nite variations and degrees of social status and financial rating, the scale of living and the thing called *culture* being the principal defining elements of our position in this world of complicated social relationships. The widespread dissemination of contraceptive knowledge amongst the upper and middle classes, and the disinclination of these intelligent people to beget more offspring than they can maintain at a certain standard of living, and on the other hand the apparent lack of such knowledge, or disregard of it, amongst the lower classes, has resulted in a marked reduction in the birth-rate from our best stock without any corresponding reduction in the birth-rate of inferior stock, so that we are now breeding extensively from the bottom and a little from the top. In an attempt to offset this to some extent, eugenics may rightly find its place through the dissemination of this idea amongst the upper and middle classes and education amongst the lower classes, this to be further aided by such eugenic measures as are in force today, namely, segregation and eugenic sterilization where lines are notoriously defective.

LEGAL REFORMS: PAST, PRESENT, AND FUTURE

Many legal reforms of the past enacted for the advancement of eugenics have fallen into disuse, or through their failure to fit in with the popular conception of humane measures, have suffered repeal: such eugenic laws as are now on the statute books in this and other States are aiming at the reduction of defective people through segregation, eugenic sterilization, reformation of the marriage laws, and the improved social control of the defectives at large in the community.

The State of Virginia has not been unmindful of her responsibility in these matters, and has written into her statutes a Code of Public Welfare laws second to none: many of these having been extensively copied in other States and having been the subject of widespread and favorable comment. We cannot, however, stop here: other things must be done, new laws

must be enacted and old ones repealed in order to meet new and ever-changing conditions.

I might mention as progressive legislation an Act to prohibit the marriage of notoriously defective persons except under certain conditions. Such an Act might be worded somewhat as follows:

"Be it enacted by the General Assembly of Virginia that if any citizen of this Commonwealth has reason to believe that any persons preparing to enter into the state of matrimony are by reason of the presence of epilepsy, insanity, or mental deficiency, in one or both, mentally unfit to discharge the obligations of parenthood, then the aforesaid citizen shall file a complaint with the Judge of the Corporation Court of the City or the Circuit Court of the County in which the aforesaid contracting parties reside setting forth under oath the reasons for his opinion, and, sufficient evidence being presented to the Judge, he may, if he see fit, issue a writ of injunction restraining the Clerk of the Court from the issuance of a marriage license until proper opportunity is had for investigation of the mental status of the aforesaid contracting parties. The Judge shall then summons a commission consisting of any two of the Superintendents of the State Hospitals of Virginia, or any two regular physicians qualified under the laws of the State of Virginia as practitioners, who are specializing in psychiatry, to sit at a point convenient to the defendant or defendants for the purpose of investigating the mental condition of one or both of the aforesaid contracting parties, as the case may be.

"The findings of this commission shall then be certified to the Judge of the Court in writing, and if the defendant or defendants by reason of the presence, in one or both of them, of any or all of the aforesaid mental diseases, are found incompetent of assuming the obligations of parenthood, then the Judge of the Court may, at his discretion, order the commitment of one or both of the contracting parties, as the case may be, to the proper State Hospital for the insane, if the person be afflicted with some form of insanity, or to the State Colony for Epileptics and Feeble-minded, if the person be afflicted with epilepsy or mental defectiveness, for the purpose of eugenic sterilization, as provided for under Chapter 394, Acts of the General Assembly of Virginia, 1924, and following the full performance of

this Act, the aforesaid person or persons may, at the discretion of the Superintendent, be discharged from the institution for the purpose of matrimony."

There might also with reason be an Act requiring all persons contemplating matrimony to submit to a proper physical examination by a licensed physician to rule out the presence of syphilis and gonorrhea. Some of the more progressive Commonwealths have already gone this far; manifestly such an Act would not work a hardship on any one fit to marry, as these diseases are in the main curable, and any one so afflicted may not permanently be deprived of the privilege of matrimony.

COMMUNITY OBLIGATIONS IN RACIAL REPRODUCTIONS

To borrow a homely and familiar phrase: "No chain is stronger than its weakest link," and irrespective of how much the central government of a nation or a state is doing towards the improvement of its mental and physical public health, it must fall far short of distinguished accomplishment unless a like interest and activity can be stimulated in the smaller subdivisions of government. The County and City governments, therefore, must assume their proportionate part of these obligations.

Much progress has been made through the organizations of local welfare units and district homes: as has been done in Virginia under the direction of the Department of Public Welfare, so that now a very complete skeleton organization is in force in this State, which, of course, will need enlargement and reinforcement from time to time as funds are available.

It is extremely important that the communities become socially-minded: that is, that they become more alert to situations in human relationships which are likely to be productive of defective and socially incompetent progeny. One moron couple in a neighbourhood, existing as they often do through the benevolences of the charitably inclined people, is capable of multiplying the problem tremendously within a few years, the original problem of two often being augmented by four, six, or eight, within a decade.

There has been, and still is to some extent, a strong disinclination on the part of a few communities to reabsorb persons who have been inmates of institutions: this is particularly true

with reference to the epileptic and feeble-minded; many of the younger people of these classes may, after periods of treatment, training, and discipline, and after eugenic sterilization, be paroled or discharged with reasonable safety to themselves and others. And as it cannot be anticipated that the institutions will ever be able to receive for premanent custodial care any but a small proportion of the total number of persons committed, a liberal parole and discharge policy must be maintained in order that those who may reasonably well adapt themselves to living conditions in the outside world may have an opportunity to do so, and in order that those who are awaiting admission may in turn be received, treated, trained, and paroled or discharged.

Happily, the majority of communities are accepting this idea of their obligations as to the supervision and after-care of institutional cases: and this work will, of course, grow in efficiency as time goes on.

PROGNOSIS FOR THE RECOVERY OF AN AILING RACE

When we take into consideration the very notable advance in public welfare work in the past quarter of a century, as compared with the preceding 100 years, we can but feel somewhat optimistic of the future: people generally being far more alert today in matters relating to the mental and physical well-being of themselves and their neighbours than they were a quarter of a century ago, and we anticipate continued and uninterrupted progress along these lines. Much of the mawkish sentiment and flimsy shibboleths of a few years ago have faded away before the light of education and in the face of uncontrovertible statistics and scientifically proven theorems. It is not foolish to hitch one's wagon to a star, for the unbelievable theory of today becomes the proven laboratory fact of tomorrow, and while perhaps a Utopia may never arise out of our efforts to better our brother's condition in this world in which we live, nevertheless, much that is practical and useful and elevating to all can be developed and carried to a successful conclusion by the simple formula of all who are interested in these things pulling together towards the common goal: a citizenry purged of mental and physical handicaps.

The following questions with reference to statements in this paper were raised by a competent psychiatrist and neurologist at the re-

cent meeting of the Virginia State Medical Society.

1st: Do we know the necessary grouping of mental qualities and physical characteristics in a mating requisite for the production of normal offspring?

2nd: Can we define or limit the respective influences of environment and inheritance on the offspring?

3rd: In view of more recent investigations in biology does Galton's Law—the law of filial regression as it is sometimes known—hold good?

4th: Did matrimonially inclined persons who consulted me with reference to the probable eugenic result of such and such a mating take my advice?

These questions have been answered as follows:

I am not especially disconcerted by Dr. Henry's first question. The answer is here: we know that a mating of two epileptics, two insane, or two feeble-minded persons cannot, and does not, produce a normal, who will adequately meet the obligations of modern society, and conversely we may assume for the present that two normals will, and do, produce a normal.

The chief problem is "by what criteria shall we judge normalcy?"

I shall say that a reasonable working hypothesis would be as follows: A mating in which the male and female has no antecedents within the first two preceding generations who had produced an insane, semi-insane, neurotic, psychotic, epileptic, or feeble-minded person; a male and female whose two preceding generations had not produced a single socially or economically inadequate person; a male and female whose physical bodies had been sound from birth and whose sperm cells and germ cells had never been subjected during the maturation stage or thereafter to toxic or cytolytic influences from the soma or living body.

Two persons so mated, I should say, would invariably produce a normal: a person socially and economically adequate for his time.

How to obtain this perfect person is, of course, another story. But I think you may agree without stultifying your conscience that this is theoretically possible, and so fast do we move that the theory of to-day becomes the accomplished fact of tomorrow.

The germ cells and sperm cells are the only structures directly concerned in the reproduction of the organism's kind, and if these cells and the substance germ plasma can be kept free from injurious physicochemical and mechanical influences during the maturation stage and thereafter, I see no reason why it is impossible to produce the perfect plasma.

Dr. Henry has referred to the belief of a prominent psychiatrist that the biologists working on these problems have so far been unable to define fully and limit the respective influences of environment and heredity. In this connection I may cite for you the experiments of the biologists Stockard and Craig whose experiments so far have not been questioned and of which so distinguished a worker as Dr. Myerson has said, "There seems no reason to doubt but that they will stand the test of time." Stockard and Craig in their laboratories subjected guinea pigs to the fumes of alcohol for six days out of the week until they were thoroughly toxic, but not incapacitated for mating; the results were as follows:

Of ninety matings, between the normal female and the alcoholized male there were thirty-seven abortions, ten litters were still-born, forty-three litters contained living young, and thirty-five of these lived only for a few days. The forty-seven survivors contained many small, defective individuals that were stupid, physically below par, and with various physical deformities and involvements of the nervous system. There were cases of corneal opacity, paralysis agitans, shrunken optics, and in some instances entire absence of the globe, as well as albino types with deformed limbs.

In mating the alcoholized female with a normal male, there were seven abortions, four still-born litters, and twenty-two living litters of which twenty-two died shortly after birth.

The results of the matings in which both parents were alcoholized were as follows: of forty-one matings, twenty were totally negative; there were fourteen still-born litters, and seventeen living litters, with twenty-six young, of which twelve died shortly after birth. The control of ninety matings of normals gave sixty-six living litters and ninety-nine surviving offspring. The offspring from the toxic parents were relatively defective as to size, intelligence, and physical characteristics, and

defects arose in strains from the male side in which the treatment had been given to the second or third preceding generation.

It is scarcely necessary for me to point out the fact that deterioration as the result of the toxic male progenitor could scarcely have been due to anything other than a change produced in the germ cell, and the fact that defects arise in this way in three or four succeeding generations is certainly strongly indicative of true hereditary transmission through modification of the germ plasma.

Dr. Henry refers to Galton's Law, or filial regression, which held that succeeding generations tended to wipe out any departure from the mean. This theory, I think, is successfully exploded by the recent laboratory experiments of Geyer and Smith. They injected into fowls the pulverized lens of rabbits, securing a serum having a very destructive effect upon the lenses of rabbits. This serum was injected into the pregnant albino rabbits. In the succeeding two weeks many foetal rabbits died: in nine out of the sixty-one that survived, the lenses were small, and more or less opaque. There were small globes, and in some instances entire absence of the optics. The controls injected with serum of untreated fowls showed no modification.

The important conclusion is this: when these characters appeared in the rabbits, they became hereditary without further injury, and were transmitted for eight succeeding generations beyond which the experiments were not conducted. Further, the defects strongly tended to become more serious in each succeeding generation. In crossing defective males with normal females, some offspring were produced with normal optics; but when these were again crossed with defective males, a number of young with degenerate eyes were produced. The answer here is as follows: The germ plasma passed through and the individual is only an off-shoot of the stock, and no one insofar as I know has been able to discount the facts brought out in these experiments, and it does not seem possible to deny that new characters may appear as the result of environmental forces within the body and these in turn may be transmitted from generation to generation. The influence of environment may for the present be dismissed with the simple assertion that the forms of life used in these experiments by Stockard and Craig, Geyer,

and Smith, were subjected to the same environment, and I am personally of the opinion that a normal, natural individual with good ancestry will find some way to make for himself an environment in keeping with his breeding.

I am afraid that I will not be able to answer Dr. Henry's last question to his entire satisfaction, if I have the others. He wants to know what proportion of persons coming to me for confidential eugenic advice acted on the suggestions given. Roughly, I should say, that out of a half-dozen such inquisitors within the past year, there were two who apparently acted upon the suggestions I gave them. The important thing, however, is not how many came, or what their reactions were, but that they came at all. And this I interpret to mean that intelligent young people of today are at least giving such matters some serious consideration.

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TREATMENT OF CARCINOMA OF THE CERVIX BY RADIUM AND ROENTGEN RAY.*

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Welch¹ in a review of 31,000 cases of cancer found the uterus involved in 29.5 per cent and of this number approximately 90 per cent are of the cervix. Carcinoma of the cervix is, therefore, one of the most frequently encountered cancers and its proper and adequate treatment is of prime importance.

The purpose of this paper is to outline in a general way the treatment of carcinoma of the cervix by radium and X-ray and to present our results over a five-year period ending January 1, 1926, with a review of the results obtained in the treatment of this condition at some of the leading clinics in this country.

No attempt at a review of the causes, predisposing factors or allied data will be made because of the voluminous material involved.

CLINICAL AND HISTOLOGICAL CLASSIFICATION

There are two histological and clinical varieties of carcinoma of the cervix, namely: (1) Squamous cell or epidermoid carcinoma, and

(2) glandular or adeno-carcinoma. The epidermoid or squamous cell lesion arises from the epithelial lining of the vaginal portion of the cervix and comprises well over 90 per cent of the cervical carcinomata. The glandular or adeno-carcinoma has its derivation in the glandular structures of the cervical canal and comprises less than 10 per cent of the cervical cancers.

It is occasionally possible in the very early cases to differentiate between these two types clinically, although as the lesion progresses the individual characteristics are lost and the clinical appearance is the same. Adeno-carcinoma is slightly the more malignant and this variety in all grades responds a little better to radiation therapy.

DIAGNOSIS

The early diagnosis is most essential since the end-result is practically in direct proportion to the degree of involvement.

The one dominant symptom is irregular or untimely bleeding, and every woman presenting such a history, regardless of age, should have a thorough pelvic examination in order



Description of Instruments.

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|-------------------------|-----------------------|
| 1. Long Finger Forceps. | 5. Gold Crucifix. |
| 2. Sponge Forceps. | 6. Gold Capsule. |
| 3. Radium Holder. | 7. Bi-valve Speculum. |
| 4. Uterine Sound. | |

to exclude cervical carcinoma. If the condition is present, it is not a difficult diagnosis as its appearance is characteristic and a careful bimanual examination will determine the extent of the involvement.

*From Radiological Clinic of Drs. Groover, Christie & Merritt, Washington, D. C.

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It is not essential to perform a biopsy to establish a diagnosis and we are strongly opposed to such a procedure. The added trauma to the tissues and the opening of the vascular and lymphatic structures incidental to the removal of a section increases the chance of metastasis. The damage done far outweighs any scientific information gained.

Biopsies were obtained in the majority of cases reported in this paper, but we have discontinued this procedure during the past three years. There are few cases where a clinical diagnosis cannot readily be made and in these the pathological report, in our experience, has been of little aid. The doubtful cases then do not justify the drastic method with its attendant dangers solely for a record.

TREATMENT

The consensus of opinion among the leading surgeons, gynecologists and radiologists is that the treatment of carcinoma of the cervix, irrespective of the type or degree of involvement, lies entirely within the realm of radiant energy. To quote Francis Carter Wood², "It is perfectly evident that the time has passed for surgery of carcinoma of the cervix." There are several procedures still in practice which should be mentioned in order to condemn them. A few surgeons continue to cauterize the cervix before referring these patients for radiation therapy. No beneficial effect is accomplished by this method and a definite damage is done. There is no hope of a complete removal and there always follows a certain amount of sloughing and edema for several weeks which interferes with the proper application of radium. This delay may militate against recovery and should be avoided.

Tenacula are used far too frequently and without respect for the lesion. Some operators do not hesitate to bury a tenaculum in a malignant cervix and use forceful traction. This is a deplorable method and should be condemned. There is rarely a place in this condition for the use of such an instrument and, when used, it should be done with the greatest care and gentleness since it is essential that the cancerous cervix should be traumatized as little as possible.

There is also no place for the weighted speculum in the treatment of cervical malignancy. The unnecessary damage to the tissues

incurred by such an instrument is great. This procedure should be discarded for the simpler bi-valve speculum which can be easily introduced and an ample field afforded with little or no trauma. The bi-valve speculum makes it unnecessary to use a tenaculum except in rare instances.

The practice of dilating the cervix in the presence of malignant disease is employed by many thoughtless operators, but this is fraught with danger and should not be attempted. If the cervical canal will not admit the free passage of the radium capsule into the uterine cavity, this step in the treatment should be postponed and the radium placed against the cervix and high voltage roentgen therapy instituted. Under this regime, the cervical growth will rapidly diminish, and in the course of two or three weeks the cervical canal will be patent and the radium can then be easily passed into the uterus.

There are rare instances of personal idiosyncrasy to radiant energy and the employment of massive doses of radium is contraindicated, and if used may end fatally. It is, therefore, advisable to give one series of high voltage roentgen therapy to all of these patients, regardless of the degree of involvement, as the initial step in the treatment. The procedure serves a dual purpose. It affords a definite test as to the patient's susceptibility to radiation and it is also of great value as an adjunct in the devitalization or destruction of stray malignant cells.

The second step in the treatment depends entirely on the location and size of the growth. If the case is a very early one, with neither extension into the vagina nor encroachment on the cervical canal, then the gold crucifix containing 50 mgms. of radium can be introduced into the cervical canal for five days. The crucifix is so arranged that 10 milligrams of radium are in the uterine cavity, 10 milligrams in the cervical canal and 30 milligrams against the cervix. After an interval of three weeks, high voltage roentgen therapy should again be employed and two complete series given at six to seven week intervals.

Should the growth be very large and encroach upon the canal, non-removable radon seed should be implanted in the lesion with the radium capsule placed against the cervix. This

will permit the easy use of the gold crucifix within a few weeks.

Every case is an individual problem and should be dealt with as such. The only steps that should be employed routinely are the three series of high voltage roentgen therapy, one series being given as the first step in the treatment, and the other two supplementing the radium. The correct employment of radium is entirely guided by the type of lesion as to whether the gold crucifix, the radon seed, the capsule against the cervix, or a combination shall be used. It is essential, however, that enough radiant energy be given and the best results are obtained by three complete series of high voltage roentgen therapy (200 K. V. Peak) and approximately 6,000 milligram hours of radium filtered preferably through 3 mm. of gold. The all important point is to avoid unnecessary trauma to the cervix and adjacent structures by undue and uncalled for instrumentation.

RESULTS

In this series, all cases receiving previous operative treatment for carcinoma of the cervix have been excluded, since the object of this report is to place before you the results expected in the treatment of cervical carcinoma by radiant energy.

The cases are arranged in three groups, according to the degree of involvement. Group one comprises those where the growth was limited entirely to the cervix. Group two includes those with an involvement of the cervix and extension into the vagina. Group three comprises the advanced cases with extension into the broad ligaments, fixation of the uterus, etc. The number of cases in each group is given with the percentage living at the end of one, two, three, four and five years.

The best results are obtained in the early cases although the results in the hopelessly involved are very gratifying and are remarkable for the relief afforded and the material prolongation of life.

Recent articles by Bowing, Des Jardins, et al.,³⁻⁴ present the results from similar treatment at the Mayo Clinic. They report 66.7 per cent of the favorable and 23.87 of the borderline and inoperable cases living at the end of five years.

Healy⁵ from the Memorial Hospital in New

York City reports 44.5 per cent five-year cures in the favorable cases.

TABLE RESULTS

GROUP	CASES	CASES LIVING									
		1 Year		2 Yrs.		3 Yrs.		4 Yrs.		5 Yrs.	
		No.	%	No.	%	No.	%	No.	%	No.	%
I Growth limited to cervix.....	16	16	100	15	93.7	13	81.2	12	75	11	68.7
II Involvement cervix and vagina.....	7	7	100	6	85.7	5	71.4	4	57.3	3	42.8
III Advanced cases with abdominal involvement.....	13	10	76.9	9	69.2	7	53	4	30.7	3	23
TOTAL...	36	33	91.7	30	83.3	25	69	20	55.6	17	47

SUMMARY

Carcinoma of the cervix is one of the most frequently encountered cancers and one should be constantly on a lookout for the lesion since an early diagnosis is very important. This condition should be excluded in all women having irregular or untimely bleeding and vaginal discharge, regardless of age.

The treatment of cervical cancer should be entirely by irradiation. The results when compared with the former surgical results are gratifying and, with the knowledge accumulated in recent years concerning radiant energy, a marked improvement may safely be expected in the future. By using heavily filtered radium and high voltage roentgen therapy and avoiding all unnecessary trauma to the cervix and surrounding structures, approximately 80 per cent of the cases in group one should live five years. Emphasis, of course, is placed on an early diagnosis although there will always be cases more advanced when detected and it is important to remember that these individuals have a fair chance for recovery. The cases having an extension into the vagina as well as an involvement of the cervix have over a 40 per cent chance of living five years and one out of three of the advanced

cases may expect the same duration of life. In addition to the prolongation of life in advanced cases, the pain is usually entirely controlled, and this alone justifies the method.

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DIABETIC COMA.*

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In selecting this subject for discussion one is influenced by two outstanding facts. First, that this is an acute medical condition analogous to an acute surgical condition such as, for instance, a ruptured ectopic (and who would not make all possible haste to get an ectopic to a surgeon), and should always be given the respect and care demanded by the relatively few acute medical crises. It demands immediate and continuous and expert understanding and treatment and will give the most brilliant results if so treated and the most deplorable lack of results if imperfectly, improperly or tardily treated.

In the second place it is only in the last few years since the advent of insulin that we have been able to promise anything to these cases, as without this valuable remedy the condition was almost universally fatal. My plea, then, is for an early and accurate diagnosis and treatment and the results will, I am sure, justify any labor involved.

The reason for the acidosis of diabetes, which terminates so often in coma, being the improper oxidation of the end products of fat metabolism and these products being unable to be burned except in the presence of carbohydrate, the old treatment of acidosis with sugar was rational, but lacked the insulin to burn the sugar and so was unsuccessful.

Let us consider first the signs and symptoms

of the acute and chronic acidosis of diabetes, both of which so often terminated in a fatal diabetic coma formerly and which yield such surprisingly splendid results under present day insulin treatments. The chronic form of acidosis may and often does persist for months with no other symptoms than a reduction of the CO₂ content of the blood from 50 to 40 or possibly 35 volumes per cent, and such ordinary symptoms as headache, anorexia, indefinite soreness and pain in the body, insomnia, indigestion, fatigability and lack of ambition. We have all seen a diabetic neuritis, in this type of acidosis, which was characterized by pain in the distribution of the peripheral nerve involved, and relieved by the removal of the sugar, acetone and diacetic acid from the urine by proper adjustment of diet. The diabetic tabes with loss of reflexes is of this origin and I have seen a diabetic neuritis of the ilio-hypogastric and ilio-inguinal nerve simulate an appendicitis and clear up with dietary change.

This chronic acidosis, then, is interesting and undoubtedly important but not so critical as the acute acidosis which may follow the chronic type, or may come on suddenly with no previous signs; no signs in the urine on the previous day and no symptoms two hours before its onset. The symptoms of acute acidosis leading to coma are often protean in their original manifestations. There are, however, certain signs that should put one on guard and suggest careful urinary examinations for diacetic acid and acetone and blood examination for blood sugar and carbon dioxide content.

There is the soft eyeball, decrease of intra-ocular tension, usually there is pain in the epigastrium, often nausea, vomiting, and the Kussmaul breathing, which is exactly as though there were a weight on the chest that the patients must lift with each respiration. The temperature is sub-normal and soon drowsiness occurs going swiftly into coma.

Accompanying or following these are the signs of dehydration. There is a dry skin, red glistening throat, mouth, tongue and lips, which are very dry and crack easily. The superficial tissues become flabby. The acetone or fruity odor of the breath becomes marked. The eyes become sunken, the blood pressure very low, the CO₂ of the blood goes down as low as 10 volumes per cent. I have seen a

*Read before the Lister Society, of Baltimore, Md., November 3, 1930.

child of four years in coma, with 8 volumes per cent, recover and go on to her present age of six with insulin and regulated diet. The white cell count rises to as high as 25,000, which is partly due to the dehydration. I might say that the dehydration is extreme. We had one patient at St. Joseph's Hospital who came in, in a diabetic coma, so dehydrated that in thirty-six hours we were able to increase her weight fourteen pounds by introducing fluid by mouth, rectum, and under the skin.

It might be apropos to remark here that the Loewi reaction, which is the dilatation of the pupil if adrenalin is injected into the conjunctival sac, is supposed to be definite evidence of pancreatic disease. We have had no experience with it.

Let us now consider the differential diagnosis of this condition. We see a patient for the first time and he is in coma with no history obtainable. First, we think of uremic coma, and these points present themselves to us. The blood pressure in uremia is high; in diabetic coma, low; the urine shows albumen and casts in uremia, sugar and acetone in diabetic coma; the retinitis of nephritis is present in uremia, but, as all older diabetics soon become arteriosclerotic and develop some kidney condition, the diagnosis by glycosuria is more reliable. The Kussmaul breathing is different from the stertorous respiration of uremia and the acetone odor of the breath and soft eyeballs and normal blood urea of diabetic coma is opposed to the high blood urea, normal blood sugar of uremia. The CO_2 of the blood is of great value here as it is usually normal in uremia.

One thinks also of a brain tumor in a comatose patient but the choked disk, change in visual fields, normal breathing, aglycosuria, normal blood sugar and NPN, normal CO_2 blood content and projectile vomiting of brain tumor will rule it out.

In the case of cerebral hemorrhage we have dilated or unequal pupils as opposed to soft eyeballs of coma. There is often glycosuria in cerebral hemorrhage and so we must be careful. The breathing is not Kussmaul in type but is slow, stertorous and often interrupted by periods of apnea. The CO_2 of the blood is normal, the blood pressure is high, often there is evidence of paralysis as indicated by unequal resistance of the limbs on

lifting, conjugate deviation of the eyes, or facial paralysis that is noticeable. The blood sugar is normal and acetone absent in the urine, blood and breath.

Meningitis has bothered us at times but, after noting the fever, the lumbar puncture, the cervical rigidity, the Kernig's sign, the changed or exaggerated reflexes, the normal blood sugar and the normal CO_2 of the blood, the diagnosis is made. It must be remembered that glycosuria is often present in meningitis and if the case is old enough acidosis may have developed and put acetone in the urine.

Now oftentimes a case of diabetes treated in the hospital with insulin will go into sudden coma and the question of insulin shock or diabetic coma may become very embarrassing. One must be alert to remember that in insulin shock the first specimen of urine obtained by catheterization may show sugar, as it may have been in the bladder before the last dose of insulin was given. It is well to get a second catheterization if possible. This will show no glycosuria in insulin shock. Acetone is always present in the urine in diabetic coma but very unlikely in insulin shock. Blood sugar is low in insulin shock, high in diabetic coma. The breathing of insulin shock is not Kussmaul and is usually normal, the eyes are not soft, nor is there a fruity odor to the breath. Orange juice by mouth, adrenalin by hypo or glucose by vein relieves insulin shock almost miraculously.

Regarding the treatment of diabetic coma or acidosis, once the diagnosis is made, there is not much question. Our rule at St. Joseph's Hospital is to give insulin in doses of from 20 to 40 units by hypo or intravenously as the condition of the patient indicates. Then get the blood and urine for immediate examination. The patient is now given water by mouth, by hypodermoclysis, and by rectum. Hot water bottles are applied and usually a gastric lavage is done with bicarbonate of soda solution. We usually leave some castor oil in the stomach but this is not routine. If there is not sufficient return to consciousness for the patient to take orange juice by mouth, we give 25 grammes of glucose intravenously and from 30 to 50 units of insulin each hour or two until the acetone disappears from the urine. As soon as the patient will swallow, we give the sugar in the form of orange juice by mouth, covering it with insulin by hypo. The dose

of insulin will be determined by the urine and blood sugar findings which must be done each hour, and the patient should not be left to nurse or inexperienced attendant until all danger is passed. After the first two or three doses, one can usually remove all sugar from the urine and will soon get a normal blood sugar by giving 20 unit doses at one or two hour intervals. The dose of insulin will vary greatly, especially in the presence of infection, and many cases of diabetic coma are the result of injury or infection. I have found it necessary to use 350 units of insulin daily in the case of a man with a carbuncle, before it was drained, whereas he only needed 60 units to keep his urine clear and blood normal after the surgeon's ministrations. This same patient required no insulin but merely a properly adjusted diet after recovery from his infection.

These patients should be supported with caffeine sodio-benzoate, whiskey, digitalis and any other stimulant necessary. Oftentimes the insulin, glucose and stimulants are given intravenously in the same syringe. One cannot stress too strongly the necessity for removal of infection and for the treatment of the dehydration.

In the event of the overuse of insulin, one always has at one's command adrenal by hypo, sugar by mouth or intravenously. There can be no excuse for accidents. We have discontinued the use of bicarbonate of soda recently and feel that we have lost nothing by doing so.

It is essential that the patients resume a maintenance diet rather high in carbohydrates, and adequately covered by insulin, as soon as possible.

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THE TREATMENT OF ACUTE GONOCOCCAL URETHRITIS IN THE MALE.

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There is at present much difference of opinion among the medical profession as to the ideal plan of treatment of acute gonorrhoea in the male. This has probably resulted from a failure to appreciate the aim and purpose of urethral medication. Nothing would stabilize this situation more than proper consideration of what drugs give best results, and why. The antiseptics and germicides now in common usage are of value not for their gonococ-

cococidal effect but because they stimulate the natural resistive powers of the urethra against the infection. The ideal germicide has not been found, and until this goal is reached we must be content to use our most efficient drugs in a manner that will produce fewer complications and better end-results.

A simple, easily carried out, effective plan of treatment is herein described with the hope that it may be of some value in the management and cure of acute gonorrhoea in the male.

ANATOMY OF THE URETHRA AND PROSTATE

To properly and intelligently treat acute gonorrhoea, one should certainly know something of the anatomy of the urogenital structures. A brief description may serve to freshen the mind on this subject.

The urethra, as often thought, cannot be described as a hollow tube, but must be considered as a canal of intricate formation and structure. It is divided anatomically into an anterior and a posterior portion. The anterior layer of the triangular ligament or external sphincter muscle is the dividing line. The anterior urethra is lined by a delicate layer of mucous membrane with numerous small tubular glands which extend down into the submucosal tissues. These structures offer an excellent habitat and hiding place for the gonococcus.

The posterior urethra lies entirely within the prostate gland except for the short membranous portion which is between the layers of the triangular ligament. The prostate empties into the floor of the urethra through many small ducts. In addition, there is a raised ridge, the verumontanum on its floor. This structure has on its anterior surface three openings. The uppermost is one-quarter inch deep, and is called the sinus pocularis. Below and on each side are the openings of the ejaculatory ducts which pass through the gland to join the seminal vesicles.

The prostate is a glandulo-muscular organ and so constructed as to offer the richest soil for the growth of the gonococcus.

From this short anatomical description, it may readily be seen that the ideal result in the treatment of acute gonorrhoea is to limit the infection to the anterior urethra where no very important structures are involved.

WHAT IS GOOD TREATMENT?

In beginning the battle against the gonococcus one should consider what is the best plan

of attack. The mucous membrane of the urethra is very delicate and poorly equipped to fight the hordes of gonococci. It should not be insulted with strong irritating solutions which produce a chemical urethritis in addition to the damage already done by the gonococcus. Urethral medication should not be instituted with the sole idea of killing the invading organisms because it is this idea that causes the physician to use strong solutions. Therefore, good treatment consists of mild urethral solutions which are only slightly gonococcocidal but act chiefly by stimulating the reaction of the urethra against the infection.

Astringent solutions such as zinc sulphate should never be used in the presence of gonococci. They retard the immunity processes of the tissues, prolong the infection and produce serious complications.

HYGIENE

Complications often develop because of a failure on the part of the patient to observe certain very important rules of conduct. He should totally abstain from alcohol and avoid all sexual excitement. Physical activities, especially if excessive, should be curtailed during the very florid stage.

It is well to tell the patient how to protect himself and others, stressing the deadly effect of soap and water on the gonococcus. Conjunctival infections can be prevented by warning the patient about the infectious nature of the discharge and the importance of cleanliness of the hands. The diet need not be limited except for the avoidance of irritating foods.

The best type of dressing for the penis is one that is sanitary and comfortable but does not interfere with urethral drainage. The combination suspensory and sanitary bag is very practicable. Gauze but never cotton should be placed in the bag to collect the drainage.

ORAL MEDICATION

The value of drugs by mouth is questionable. Often this type of medication gives the patient a false sense of security and he neglects to return for treatment.

The balsamics, chiefly in the form of sandalwood oil, are in common usage. Nausea, flatulence and backache are often produced which are annoying and can hardly be offset by the slight bland effect in the urine that the drug might have. The alkaline diuretics do

seem to allay burning on urination in the very acute cases. Recently pyridium and serenium have been popularized. The latter two drugs in dosage of four tablets daily are of value in controlling the infection. In acute posterior urethritis, the so-called "bladder mixture" will aid in relieving the symptoms of constant desire to urinate and straining. It is composed of tincture of hyoseyamus and potassium citrate in dosage of twenty minims and twenty grains, respectively, every four hours. But if one treats gonorrhoea with oral medication he may expect poor cooperation from his patient and a large percentage of posterior involvements.

ABORTIVE TREATMENT

In certain cases of early, acute, anterior gonorrhoea, the infection may be aborted by the use of acriflavine. The treatment must be started within twenty-four to forty-eight hours after the discharge has begun,—before the infection has reached the posterior pendulous or bulbous portion of the urethra. The technic as outlined by Montague Boyd, of Atlanta, is followed. Two injections of acriflavine 1-1000 solution (Boots' preparation) are given daily. It is best given with the patient lying down. One or two drams of the acriflavine is injected into the anterior urethra. The solution is held in by closing the meatus with the fingers. A thin strip of cotton, one inch wide and three inches long, is folded over the penis and a similar piece placed over it. The meatus is released and while holding the penis erect, the acriflavine is allowed to ooze out slowly. The wet fibers of the cotton tend to hold the lips of the meatus together so that the solution will come out gradually, keeping the urethra bathed in it for a period of ten minutes. Usually the gonococci and the discharge disappear in twenty-four to forty-eight hours. These injections are continued for one week. Following this, anterior irrigations of warm potassium permanganate solution 1-5000 are given twice daily. In some cases the patient is given neosilvol in 5 per cent solution to use as an anterior injection twice daily for a few days. Three or four weeks later the urethra should be gently dilated with sounds.

The following case is cited briefly as illustrative of the above method of treatment:

A man, aged fifty-five, was seen three days after exposure. Examination revealed a slight urethral discharge which contained gonococci.

The first glass of urine was hazy and contained a few shreds. Acriflavine injections, as described previously, were given twice daily for one week. Twenty-four hours after the first injection the discharge had disappeared and the urine was clear except for a few shreds. Several daily smears were negative for the gonococcus. The anterior urethra was then irrigated daily for one week with warm potassium permanganate solution 1-5000 and followed by an injection of 5 per cent neosilvol. Three weeks later a 24 French sound was passed down to the bulb. There was no return of the discharge and the urine remained clear.

URETHRAL MEDICATION

The ideal method of local treatment is one that is simple, effective and easily carried out by the general practitioner or specialist. For some time, the writer has followed the plan here outlined with very good results and exceedingly few complications. Especially is this true in those cases seen during the first few days of the infection and in those who cooperated during their course of treatment.

After the diagnosis is made, the patient voids. The anterior urethra is then gently irrigated with warm potassium permanganate solution 1-5000. The irrigator should not be more than two and one-half feet above the urethral level so as not to exert excessive pressure. At the beginning of the irrigation, digital pressure is made just behind the fossa navicularis to close off the remainder of the anterior urethra until the meatus and fossa are well cleansed. Following the irrigation the anterior urethra is gently filled with a 5 per cent solution of neosilvol and retained for five minutes. This is best done with a small glass blunt nose asepto syringe. It is important to relax the pressure on the meatus at intervals to allow a few drops of the solution to escape. This in turn medicates that portion of the urethra closed off by the fingers. This treatment is carried out twice daily for two weeks. At this time, there is usually little discharge and the urine is clear except for a few shreds. In some cases, however, it may be necessary to continue the above treatment for three weeks.

The patient is given slides to collect any morning discharge that may be present. Should the gonococcus still be found, the local treatment should be continued until the slides are negative. If there is no discharge

at the end of four weeks, the patient is given a week's rest and observed for any return of symptoms.

At this time, a bougie-a-boule the size of the meatus is passed to the peno-scrotal angle. The patient is given a slide and told to collect any discharge present next morning. Four days later, if the slide is negative the bougie is passed to the bulbo-membranous junction and the discharge again watched for. Should nothing be noted, four days later, a 24 French sound is passed down to the bulb and the urethra massaged over it.

With negative findings thus far, it is reasonably certain that the infection is about controlled. Silver nitrate in 1 per cent solution may be injected in the anterior urethra daily for three days to light up any dormant focus. If slides show gonococci, local treatment as described should be given for a few days which usually clears up the focus.

The patient should be observed for a period of three months. It is most important to advise the patient that he may still be infectious and to protect his partner during intercourse.

The urethral mucosa reacts differently to the various drugs and in some cases neosilvol does not seem to stir up the necessary tissue response. In such cases, protargol in $\frac{1}{2}$ per cent solution is given as an anterior injection twice daily. This is continued for a few days until the gonococci have disappeared.

Not every case responds as well as outlined but this is usually due to one of three causes: first, poor drainage from a small meatus, which necessitates a meatotomy at once; second, in very acute, virulent cases of gonorrhoea, especially in blondes, the infection is difficult to control; third, the lack of cooperation from the patient with failure to observe the law against alcohol and sexual excitement.

Many patients cannot afford to be treated by the physician twice daily. This means that the patient must be given treatment that can be carried out by himself. Such a procedure is not without danger, but provided one has an intelligent patient and sufficient care is taken in giving instructions, good results may be obtained. Neosilvol in 5 per cent solution is prescribed as an anterior injection twice daily, preferably on rising and at bedtime. The small two dram glass blunt nose asepto syringe is the best type and the least dangerous. The patient is told to void and then in-

ject the solution gently into the urethra. It is retained for five minutes, allowing a few drops to escape at intervals. The physician should see the patient carry out this plan of treatment to be certain that the directions are followed. Should it be necessary for the patient to be away from his physician for several days, he can easily be taught to examine the first and second glasses of urine. The role of phosphates in clouding the urine and the use of acetic acid should be mentioned also. The symptoms of posterior infection should be described, especially clouding of the second glass of urine, and the patient told to immediately discontinue all local treatment if they develop. In conjunction with this treatment, the patient is seen in the office three times weekly and the treatment carried out as outlined previously. He should omit his morning injection on the day of coming for office treatment.

If the above plan of treatment is strictly adhered to, involvement of the posterior urethra will be seen in only a small percentage of the cases, provided the treatment is begun early. The urine voided in two glasses is carefully watched during the course of the gonorrhoea. At the beginning of posterior urethritis, the second glass becomes cloudy and the symptoms of vesical discomfort develop. All local treatment should be discontinued at once. The patient should go to bed, drink a moderate quantity of water and keep the bowels well open. Hot sitz baths plus a hot-water bottle to the perineum offers great relief. The so-called "bladder mixture" is given every four hours. Opium suppositories at times are of value.

In those cases where the dysuria with straining and burning is marked, great relief may be obtained by instilling 5 c.c. of 2 per cent silver nitrate solution into the posterior urethra. The anterior urethra is first well irrigated with warm potassium permanganate solution 1-5000 and the instillation done with a Keyes-Ultzman syringe. This injection may be repeated in five days if the symptoms continue.

When the patient has recovered from his vesical discomfort, daily bladder irrigations with warm potassium permanganate solution 1-5000 are given. The urethral pressure should be low and extreme gentleness carried out until the patient learns to relax well the external sphincter muscle. These irrigations are con-

tinued for a few days. If the second glass of urine remains cloudy, 10 c.c. of 5 per cent neosilvol is injected into the posterior urethra following the irrigation. This may be done with a bulb syringe if the patient relaxes well or by means of the Keyes-Ultzman syringe. After a few days of such treatment, the second glass of urine is usually clear.

Prostatic massage should not be started at this point, as the prostate is usually congested and boggy. Time should be allowed for this process to resolve. At least two to four weeks should lapse before the massage is begun. Much damage is often done by trauma during the massage. By slight rotary motion with the ball of the forefinger, pressure is made over the entire gland. The final stroke is over the urethra in the mid-line to empty the secretion out. The pressure of the massage is gradually increased and it should not be repeated more often than twice weekly. It is well to fill the bladder with potassium permanganate solution 1-5000 before the massage and have the patient void afterwards. This method is alternated with instillations of 10 c.c. of 5 per cent neosilvol. The massage should be continued for a period of eight to ten weeks. Smears of the secretion will indicate the response of the gland to treatment. Rest periods of several weeks between the courses of massage are often helpful.

At times, the urethral discharge recurs after the first few prostatic massages. Should this happen, the massage is discontinued and bladder irrigations are given daily, until the discharge disappears. Occasionally a 24 French sound should be passed into the bladder.

If the prostate does not clear up on massage there is probably some lesion in the posterior urethra. This can be cleared up by the application of 50 per cent silver nitrate through the endoscope.

When the prostatic secretion approaches normal, the urine is clear and the passage of a large sound does not produce a discharge, the patient may then be called clinically well. He should be observed over a period of three months and warned that he may still be infectious.

CONCLUSIONS

1. A consideration of the anatomy of the urethra and prostate is important in the proper handling of acute gonorrhoea.

2. Good treatment consists of urethral

medication that is only mildly gonococcocidal, but acts chiefly by stimulating the mucosal response against the infection.

3. Certain hygienic rules should be carefully observed by the patient. The most important are the avoidance of sexual excitement and total abstinence from alcohol.

4. Oral medication plays a minor role, is of slight value, and creates a false sense of security in the patient.

5. Abortive treatment with acriflavine is very effective if treatment is begun within twenty-four to forty-eight hours after the beginning of the discharge.

6. Excellent results with few complications have been obtained with the simple plan of treatment as described.

ZINC STEARATE INSUFFLATION, WITH REPORT OF A CASE.*

By ERNEST G. SCOTT, B. S., M. D., Lynchburg, Va.

In February, 1930, I was called to attend an acutely ill little girl who had aspirated some zinc stearate powder into her lungs. This condition, although not found in textbooks on pediatrics†, is a not uncommon occurrence in the nursery. The first reported case was that by Bass¹ in 1919. The same year Boehme reported another fatal case. Fisher in 1920 and Barnett in 1921, each reported one case with recovery. However, it was not until 1922 that any interest was aroused in this subject. In that year Heiman and Aschner², of New York City, in a comprehensive article reported twelve cases that one of them had observed, together with autopsy record of their one fatal case and the results of experimental insufflation of zinc in dogs. Following their report, the *Journal of the A. M. A.* commented editorially on this danger to infants. Several other articles appeared in the next year and, in 1923, at the San Francisco meeting of the American Medical Association, a Committee on Accidents from Zinc Stearate Dusting Powders was appointed by the Board of Trustees. This committee, composed of J. A. Abt, W. C. Woodward, and B. N. Leech, made two reports^{3, 4} on its work. Their final recommendations were:

"1. That all manufacturers of zinc stearate powder for infants be requested to use a self-closing container of a type which does not lend itself easily to manipulation by an infant, and

to place a uniform caution label on the container.

"2. That the use of zinc stearate as a dusting powder for infants be discouraged by the medical profession because of lack of therapeutic evidence of its value."

O'Keefe⁵, in 1924, reported six cases from the Massachusetts General Hospital, all of whom recovered. In the following year Conklin reported one fatal case. By 1927 six additional articles had appeared and there were records of over one hundred and sixty cases with thirty-six deaths, a mortality of over 22 per cent.

As a result of the efforts of the American Medical Association, the State of Illinois, in 1926, passed a law providing proper containers for zinc stearate (self-closing) with a caution label and provided a fine of two hundred dollars for failure to comply with the law. So far as is known, no other state has such a law, although Florida contemplated passing one.

As a matter of interest, letters were addressed to ten prominent distributors of medicinal supplies, asking them about zinc stearate. Five stated that they had never marketed it. One stated that they formerly did but discontinued on account of the danger. One markets it in an ordinary can, but stated that they intended very soon to adopt a self-closing container. Three dispense it in self-closing cans with a caution label. Thus it is seen the majority of distributors are using a self-closing container, the direct result of agitation by the American Medical Association. It is to be hoped that the time will come when such accidents as are reported here will never occur. Talcum powder is a much safer dusting powder for infants, since it has not the highly irritant action of zinc stearate. As far as I know there are no recorded instances of talcum powder aspiration causing a fatal outcome.

The accident usually occurs by an infant grabbing the can which has been left lying near and pulling it to the face just as if it were a bottle of milk. A shower of powder is received which causes a cough, followed by inspiration of larger or smaller amounts of powder. There are grave signs immediately. The powder irritates the mucous membrane of the mouth, throat and lungs, causing cough, labored wheezing respirations, often collapse and coma. Many recorded cases are unconscious for long periods following, due to partial asphyxia or to collapse. Cyanosis and labored, asthmatic breathing may alternate with pallor

*Read by title at the sixty-first annual meeting of the Medical Society of Virginia, in Norfolk, October 21-23, 1930.

†Abt's System has one short paragraph on the subject.

and shallow respiration. If death does not follow in a few hours from asphyxia, the breathing and color may improve, but the danger is not over. Some cases develop a bronchopneumonia, others rapidly get well. Even in the absence of bronchopneumonia a moderate fever and slight leucocytosis is the rule and the respirations are very rapid. Edmonds's case had a respiratory rate just before death of 104, higher than the temperature. There is usually a croupy cough, and scattered medium moist râles through the lungs. Supra- and infra-sternal retraction during inspiration is common.

As regards the treatment this is directed towards relieving the asphyxia and removing any of the powder that may have been swallowed. Most of the deaths have occurred from asphyxia in the first few hours and we must act quickly. Oxygen inhalation is advisable. Atropine and adrenalin are recommended on theoretical grounds in order to relax any bronchospasm. Gastric lavage, or an emetic like syrup of ipecac, is administered to get rid of any of the powder that may have been swallowed, but it is probable, zinc stearate being practically insoluble, that considerable amounts could be swallowed with impunity. In a good many of the reported cases bronchopneumonia has developed following recovery from the immediate effects of the powder. When this occurs, the treatment is that of this disease.

REPORT OF CASE

Margaret J., two years and eight months old, was found by her mother in acute respiratory distress with a can of zinc stearate on the floor near by and powder on the mouth and face. She was coughing frequently and having great difficulty in breathing. Dr. R. P. Kelly was called. He administered an emetic and sent the child to the Virginia Baptist Hospital. I saw the child at 10:30 P. M., February 21, 1930, five hours after the accident. At that time she appeared acutely ill, with anxious expression, flushed face, rapid, grunting, shallow, jerky respiration and a frequent hacking cough. She complained of her throat being sore. The temperature was 99°, pulse 150 and respiration 60 per minute; there was no cyanosis. Physical examination of the chest was negative. There was dilatation of the alae nasi with inspiration and supra- and infra-sternal retraction. The mother stated the child became unconscious shortly after the accident and remained so for

four hours, during which time she was purplish and had periods of labored, wheezy respirations alternating with shallow respirations. The next day there were a few scattered medium moist râles through both lungs and the condition was the same as the night before. No medication was given except syrup of ipecac, strong tea and small doses of codeine and luminal at night. An X-ray of the chest, taken the second day, showed nothing abnormal. On the second day the respirations were 70 per minute and the pulse 160; they never went beyond this point and there was no fever. The third day respiration was easier and cough less, and the fourth day the child was apparently normal except for some hoarseness and still rapid respiration (40) and she was discharged.

SUMMARY

1. Cases of zinc stearate insufflation continue to occur. This is an acute emergency of infancy.
2. In the treatment, oxygen, atropine, adrenalin, steam inhalations are indicated, but for the severe case nothing is of much avail.
3. It is to be hoped that all manufacturers will adopt a safe self-closing container and that physicians will warn mothers of the danger from this source. Until all manufacturers have adopted such a can, we would do much better to advise mothers against the use of zinc stearate and advise talcum powder.
4. A case of zinc stearate insufflation with recovery is reported.

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SINUSITIS AND SOME OF ITS CAUSES.*

By THOMAS A. POOLE, M. D., Washington, D. C.

In considering sinusitis I would like to mention the names of some of the men who brought this important subject so prominently before the medical world.

Onodi, as far back as 1906, possibly wrote and delivered the first important paper on this subject at the thirty-third Ophthalmological Congress held at Heidelberg. Again, in 1908, he read another paper on the Optic Nerve and Accessory Cavities of the Nose.

Arnold Knapp wrote on Bilateral Optic Neuritis, after Ethmoiditis, in 1908. Following these three very important papers, H. W. Loeb wrote voluminously on the Anatomical Relations of the Optic Nerve to the Accessory Cavities of the Nose, 1909. And from this time to the present, such men as Hajek, Skillern, Sluder, Van der Hoeve, de Schweinitz, H. H. Stark, F. Billings, J. H. Parsons, G. A. Piersol, including Jackson and Coates, and many others too numerous to mention, have contributed very materially to this subject.

The general consensus of opinion is that these cavities are nothing more than incubators for bacteria to multiply in, when and after the ostium or drainage has become obstructed or occluded. With this occlusion we have anaerobic bacteria development. This character of bacteria produces extensive involvement in surrounding tissues and cavities, the reason being that the mucous membrane of these many cavities is contiguous with one another. Again the venous circulation, we know, is a great conveyer of bacteria, especially as the bony separation of the adjacent structures contains so many dehiscences, and small venous radicles, which form communication between the veins of the mucous membrane of the sinuses and the venules of the dura. If we take only one sinus, the maxillary antrum, we find, on account of the relation of the lining membrane of the antrum to the nasal cavity, other sinuses and the teeth, it is more often diseased than any other sinus. Its ostium is so placed as to be easily blocked by acute tissue changes in the middle fossa of the nose, by chronic hyperplastic conditions of the middle turbinal body, or by direct extension of infection from nasal mucosa. Infection from

neighboring sinuses must also be considered. In addition, the floor of this sinus is in intimate relation with the teeth, which may project into the lumen, especially the second premolar and first molar. Like other cavities with a lining mucosa, it is subject to acute and chronic inflammatory changes. As additional etiological causes, we have the infectious diseases, which we can refer to as those with incubation periods,—conditions such as measles, scarlet fever, diphtheria, pneumonia, influenza, etc. Almost invariably you can trace the present condition of involvement of the sinuses from some past attacks of one of these childhood diseases.

The Roentgen ray has become an invaluable aid in the diagnosis of many of these obscure sinus involvements and in discovering foci of infections. Its chief field of usefulness, however, is in the diagnosis of frontal, ethmoid, and maxillary conditions. The evidence obtained by the Roentgen ray of the sphenoid is not as reliable or dependable, but it does give one a good and clear definition of the anatomy, which is of help in operating.

In conclusion, gentlemen, I wish to say that if any of you have the time and opportunity, while visiting London, to call on Sir Arthur Keith, Curator, Royal College of Surgeons, and get his permission to inspect the wonderful collection of Onodi dissections there, you will be well repaid. There one sees medical men from all parts of the world studying this most wonderful collection of actual anatomical specimens.

NOTE:—The author threw on the screen some thirty or more pictures, demonstrating the assistance of the X-ray, both in diagnosis and in determining end results.

Presidential Apartment.

16th and L Streets, Northwest.

TREATMENT OF PELLAGRA.*

By C. C. JOYNER, M. D., Farmville, N. C.

In 1912, under authority of the Surgeon General of the United States Public Health Service, Goldberger began the fundamental investigation into the cause of pellagra, which is still going on although Goldberger is dead. These investigations have brought something like order out of the chaos that had prevailed up until that time. Prior to the investigations

*Read before the Medical Society of the District of Columbia, Section on Ophthalmology, Otolaryngology, and Laryngology, October 17, 1930.

Discussed and criticised by Drs. Bennett, Bailey, Davis, Gill, Tribble, and Flynn.

*Read before the Seaboard Medical Association of Virginia and North Carolina at its annual meeting in Elizabeth City, N. C., December 2-4, 1930.

of Goldberger and his associates in Kentucky, Alabama, Georgia, and South Carolina, there were almost as many theories as to the cause of pellagra as there were physicians called upon to treat it. Almost everything from evil spirits to corn bread has been accused. Since the etiology of the disease has been established, the treatment has been greatly simplified and made far more scientific.

Since the disease is unquestionably due to some dietary deficiency, the obvious procedure is to supply the lacking factors to the diet. Naturally, then, the treatment of the disease falls under three heads, namely, dietary, hygienic and drugs, named in the order of their importance.

To meet with gratifying results, a complete change in the dietary of the patient is absolutely imperative. All fried food should be forbidden. All salt meats, fish, etc., should be interdicted, and no cured meats of any kind are allowed. He should have plenty of eggs, milk, fresh meats, fish, chicken, liver, and, in fact, any kind of fresh meat. Fresh vegetables, cooked and raw cabbage, beans, peas, turnips, turnip greens, mustard, spinach, tomatoes, onions, beets, okra, green corn, squash, etc., as also white bread, whole wheat bread, corn bread, graham bread, rye bread, all of which must be fresh, may be given freely. Again I should say that no salted meat is to be allowed, and very little salt should be used in serving the food. Sodium chloride has no place in the dietary of the pellagra patient. I have demonstrated this to myself many, many times in numbers of patients. Canned vegetables may be used when the fresh are not to be had, but they are far inferior to the fresh. All kinds of ripe fruit may be taken freely. Tea and coffee should be given sparingly; fresh milk and fresh water are the drinks for the pellagrin.

During the winter the signs and many of the symptoms of pellagra disappear, and the patient is apt to think he is well, and will return to his old diet of salt fish, salt fried meat, dry half-cooked bread, etc., with disastrous results to himself. All pellagra patients should, therefore, be cautioned to use extreme care in selecting the winter food. All meats should be thoroughly cooked, preferably stewed or baked; fried meat is bad for the pellagrin.

The investigation of the Public Health Serv-

ice would seem to show that canned salmon and canned haddock have considerable pellagra preventing properties. My experience with these foods, however, is meager. I have had two patients on canned Alaska salmon this past summer and they both seemed to do well; all the symptoms cleared up promptly under salmon, milk and eggs, no other meats being used.

Some patients when first seen are so far gone that they cannot take solid food on account of the sore mouth which is sometimes extreme. These cases must be given rich soup, fresh milk and soft cooked eggs, in small quantities at frequent intervals, until they can take solid food. I have had no experience with yeast.

The hygienic treatment requires that the patient be kept clean and comfortable. A daily warm bath with a change of bed and body linen will keep him clean. The mouth, nose, eyes, and ears should be carefully looked after and kept scrupulously clean. At the first sign of any inflammatory condition, appropriate treatment should be carried out. A saturated solution of boric acid in camphor water will usually suffice for the nose, ears, and eyes. The mouth requires different treatment.

Now, last, the drug treatment. There are not more than half a dozen drugs that are of any value in the treatment of pellagra. Many specifics have been vaunted, but they are all useless. The very etiology of the disease precludes the possibility of such a thing. In fact, drugs have but a small place in the treatment of pellagra.

In the beginning of the trouble a complete change in the dietary from those foods which induce pellagra to those that prevent and cure it is all that is necessary. When, however, the disease has so far progressed that the patient is weakened and run down, the vitality greatly depressed, and the natural forces of resistance and repair broken and scattered, so that disease-producing organisms find many portals of entry, then the disease is pellagra with complications. The abraded mucous membrane offers an inviting field to countless germs. The broken and denuded skin offers no resistance to infection of any kind. These infections are not pellagra; they are accidents in the course of the disease, complications which must be recognized and treated as such. Remember you are dealing with a person suffering from an unusual form of starvation.

Usually the patients first seek relief from the skin eruption or some digestive derangement. The skin eruption is a true dermatitis and requires some soothing application, as, for instance, the oxide of zinc ointment or an ointment composed of 20 per cent thymol iodide in lanolin. For the sore mouth a wash of phenol 1 per cent, with chlorate of potash 4 grs. to the drachm, glycerin and water. This should be used every two hours through the day to thoroughly wash mouth and throat. It should not be swallowed. If the patient is too weak to use the wash, a mop or applicator may be used to apply it. For the inflamed mucous membrane of the alimentary canal, I usually prescribe the following: Tincture ferric chlorid 8 minims, chlorate of potash 4 grs., elixir maltopepsin or panpeptic elixir 1 drachm, water 1 drachm,—two teaspoonfuls to be given in water before meals. As a systemic tonic I usually prescribe something like the following capsule: Cerium oxalate 4 grs., powdered extract nux vomica $\frac{1}{4}$ gr., arsenic oxide $\frac{1}{12}$ gr., calcium sulphide 2 grs.,—to be given after meals.

Arsenic is perhaps more generally prescribed than any other drug, but has no specific action in pellagra more than it has in any other wasting disease. I have given arsenic intramuscularly, intravenously, and by mouth, and the latter route is as good as any. In my experience the newer arsenicals have no advantage over the older preparations. The diarrhea, which is sometimes severe and intractable, is best controlled by equal parts of laudanum and aromatic sulphuric acid. Fifteen to twenty drops is the dose of the mixture. These patients seem to take larger doses of opium and its derivatives than most other patients. As the diarrhea improves, I usually decrease the amount of laudanum and increase the amount of acid. The tincture of opium seems to have a decidedly beneficial effect on the mental symptoms of those patients showing involvement of the central nervous system.

There is just one other complication of pellagra I shall mention, namely, vaginitis and endocervicitis. This is a very grave complication and requires frequent douches of antiseptic solutions, as lysol or creolin. Pads should be placed under patients to catch the discharge, and should be changed often.

THE MANAGEMENT OF OPEN SAFETY PINS IN THE AIR AND FOOD PASSAGES.*

By E. G. GILL, M. D., Roanoke, Va.

Department of Bronchoscopy, Gill Memorial Eye, Ear and Throat Hospital.

Before attempting to remove a safety pin from the air or food passage, the same preliminary study and preparation is carried out as in other foreign body cases, namely:

1. Complete history. 2. Physical examination. 3. Mirror laryngoscopy. 4. X-ray. 5. Esophagoscopy or bronchoscopy. Due to the size of the pin, most of them lodge in the esophagus or bronchi with the point up. The removal in this position offers a most diffi-

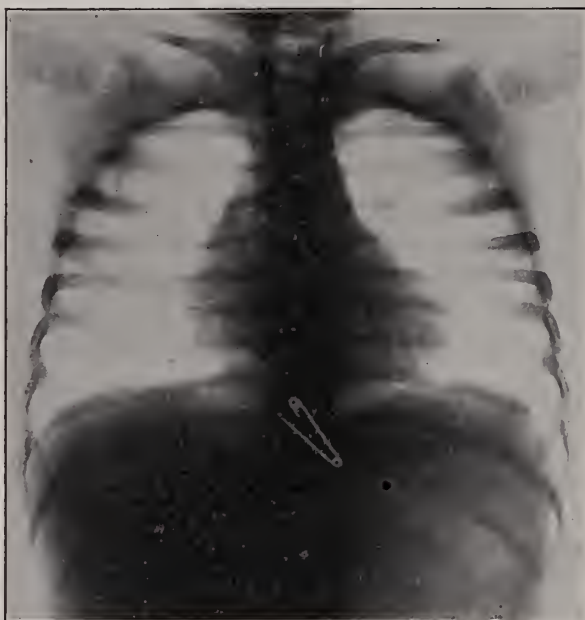


Fig. 1.—Patient, age three. Open safety pin in cardiac end of the esophagus. Passed through the intestines in thirty-six hours.

cult and dangerous problem. The method used depends upon the size of the pin, age of patient, and location in the esophagus. The majority of all foreign bodies lodge at the level of the crico-pharyngeus muscle. Only one portion of the pin can be seen at a time through the esophagoscope and the keeper is usually the presenting portion. If traction is made, fatal trauma will be done.

Ample time is always given to study each case carefully. Nearly every safety pin with point up will pass into the stomach and through the intestines without inflicting

*Read before the sixty-first annual meeting of the Medical Society of Virginia, at Norfolk, October 21-23, 1930.

trauma. I would like to emphasize the very serious complications which will probably follow blind efforts at pushing sharp pointed objects through the esophagus. It is not unusual to hear physicians say that they pushed the pin into the stomach with a rubber tube. Surgically speaking, the esophagus is the most intolerant structure in the human body, and when one practices blind bouginage, disaster is to be expected.



Fig. 2.—Patient, age nine years. Open safety pin in larynx.

The medical and lay literature often gives account of a gastrostomy having been performed for the removal of a safety pin. These operations, in many cases, are done in a few hours after the pin has been located in the stomach. It is safe to wait three weeks for an open safety pin to pass out of the stomach when repeated radiograms show the pin in different positions. If the surgeon will wait a few hours or days, he will often find that a spectacular and dangerous operation will not be necessary. An open safety pin with the point up can be removed with safety by bringing the pointed shaft into the esophagoscope and withdraw the pin, forceps, and esophagoscope with the keeper and its shaft sliding along side the tube. An open safety pin with the point down offers no particular mechanical difficulty in removal.

An open safety pin in the trachea or bronchus point downward, can easily be removed.

When lodged point upward, the same care must be exercised in preventing traumatism as in case of the esophagus. The point should

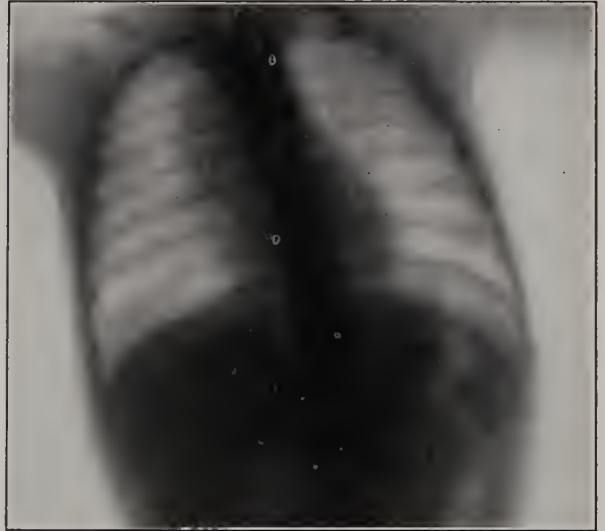


Fig. 3.—Baby, age six months, safety pin in esophagus, upper one-third, point down. Removal with the esophagoscope.

always be sheathed by bringing it into the bronchoscope. In case of large safety pins, a preliminary tracheotomy is sometimes indicated. Large objects are often stripped off when drawn through the larynx. This complication may cause sudden death by asphyxiation.

CONCLUSIONS

1. It is dangerous to push any foreign body blindly through the esophagus, and very dangerous when the foreign body is an open safety pin.
2. Gastrostomy for the removal of an open safety pin should not be performed under three weeks if daily radiograms show the pin in different positions.

RHEUMATISM — OPENING OF ROUNDTABLE DISCUSSION.*

By D. B. STUART, M. D., Dublin, Va.

It has been a time-old adage that to move a mountain, or to change the course of a mighty stream, were projects beyond the scope of human ability. A rapidly advancing scientific world, developing mechanical aids that respond to the control of man, has, however, changed this situation, and now man in his inestimable smallness is able to change a landscape to suit an individual taste or reason. So

*Read before the Southwestern Virginia Medical Society, at Christiansburg, Va., September 23-24, 1930.

far as I have been able to discover, there has not been developed any such aid to help the novice with the gigantic task with which I now find myself confronted. To peruse the mountains of literature, to sail through the confusion of seas whose waves lap on the shores of uncertainty, and to fly over the extensive scope covering the subject assigned, is at first sight an impossible task, and can, at best, but entertain speculation. To assimilate the information at hand, to collect the nuggets of thought into that retort from which at terrific temperatures created by effort must flow the condensed subject matter of a potency not warranted, is an allotment that one need offer no apology for his effort. To open the discussion is therefore my sole object, and for the wealth of material that exists to be brought out by general discussion, is my single aim.

To attempt to classify the etiology, pathology and types of rheumatism brings forcefully to one's mind the very significant fact that we of the medical profession are guilty of an almost unpardonable crime in allowing the present nomenclature to continue to exist. Rheumatism is a term in general use by the laity and, sad to relate, by a large part of a profession that should know better with the great advance made by modern medicine in the last generation. When one term is used to describe several conditions that are not at all similar in their distinguishing characteristics, and they involve so many different portions of the body, then indeed have we a situation that, to my knowledge, has no parallel in the practice of medicine. Rheumatism has been known by many other names, and no serious effort has been made to confine the use of the name to any sharply defined disease, but rather to include the whole category of "rheumatoid" affections, many of which have nothing in common with each other.

Rapidly and obviously summarizing the condition, I will list the different organs and parts of the human body involved:

First, the most common condition encountered is found in the bony articulations. This may be localized or general, depending upon the type or severity of the affection.

Second, we have muscular conditions that bear a diagnosis of rheumatism. Thus are listed the lumbagoes, intra-muscular and other forms of muscle disturbance.

Third, some of the ambiguous disturbances

of nervous tissue are included under the present nomenclature, such as sciatic rheumatism, chorea, etc.

Fourth, certain systemic disturbances associated with a blood-stream infection, with the circulatory sequelae that are usually present, such as acute rheumatic fever, with or without endocarditis, are included.

Then, from a viewpoint of etiology, the most widely accepted offender is an open or concealed focus of bacterial contamination. This may be produced by oral sepsis, an alveolar abscess, infected tonsils, diseased prostate, or a sinus or biletract infection. These can be used to explain the origin of the toxic products which may be the causative agent of either acute or chronic conditions. But how disappointing this reasoning is, for, after these and many other points of infections have been thoroughly investigated and the positive ones apparently eliminated, the victim in a large number of cases makes no response, or grows progressively worse. It behooves us, therefore, to seek still further for other causes. Many, perhaps, can have more or less light thrown upon them by taking into consideration such factors as heredity, sex, climate, age with changing circulatory conditions, improper or faulty nutrition, and faults of environment. Yet, after searching with microscopic lenses with patient and painstaking effort, a large percentage of cases will pass through the hands of skilled diagnosticians with relief unobtained, largely, perhaps, because the etiology has not been discovered. To remove the cause must be in this, as in all other ailments, the keynote for success in ridding the human body of the pathology associated with the train of symptoms found. This leaves open the large field of diseases in which rheumatic symptoms are found in close association, and oftentimes the latter will be the only or at least the chief complaint given by the patient. Thus, careful search may reveal an unsuspected anaemia, syphilis, gonorrheal blood-stream infection, a tuberculous condition, traumatic states, or cases of foot or muscular strains with associated lack of muscle harmony or balance, and even certain cerebro-spinal, purpuric or scorbutic involvements. To be able to remove any of these causes serves not only to alleviate the sufferer, but also strengthens and renders clearer a diagnosis that, previous to such, could at best be listed only as ambiguous and with a large and

unsatisfactory element of conjecture. All of the above has been for almost untold generations the ground that has been searched, explored, and subjected to severe analysis and discussion, but has as yet not given up all of its secrets, and probably never will. This brings us to the realization that much is yet in the dark concerning the subject, and in this darkness there has been born in the mind of many an investigator the suspicion that, should all be found in the foregoing fields, still the etiological knowledge would not be complete.

So, as the result of this suspicion, in the last few years many of the more acute observers have entered virgin ground, and the fruit of their efforts has opened up a new vista which the great bulk of the medical profession are slow to accept. This is the field of endocrinology in which the many errors of glandular function, when subjected to closer inspection, have thrust themselves upon us as a possible cause for many of the trains of events found in the condition we are discussing, which makes it seem more than ever that it might be called a symptom-complex. Thus, we find the cases with rheumatoid complaints that appear at or approaching menopause, and less often, but still enough to be definite, a similar train of events in the young girl preparing for puberty. Then, again, the often present, but seldom recognized arthritis that appears either as an early or late symptom of thyrotoxicosis. Who knows but that the aged male, who is so incapacitated by muscular or bony involvement, is not the victim of a senile prostate or testicle that no longer supplies him with that uncertain internal secretion that may be so necessary to keep him supple, active and graceful?

The pathology involved in our subject is so wide reaching in its scope, so well known in general, and has crept into this discussion in so many places, that I will make no attempt to discuss it at any further length. Anything that is left out will probably be thought of in general discussion.

In closing, let me emphasize that no claim is made for having tried to include everything in this discussion of the subject matter under consideration, but rather to skim the surface here and there, so that those who are so inclined may choose those tiny abrasions made in that surface and enlarge it to their satisfaction or limit of knowledge. No claim is made for any extensive search of the literature

or to classify the views of any one person or group of persons, but merely to perform that duty imposed upon me by opening the subject up for general discussion by each and every one of you present.

Thus comes to an end this ramble of disconnected and perhaps incoherent ideas, and I will close with the statement that it is my humble opinion the medical profession should discontinue the use of the word rheumatism. If they must use it as a diagnosis, break it up into its component elements, and classify each with the pathology involved used adjectively. If not, choose with care a more suitable word that is more satisfactory for the case at hand. It is my own conviction, offered in puny resistance against the recognized acclaim of those who will disagree, that rheumatism is never a clinical entity, but merely a symptom or sign of some other underlying body dysfunction or disease. Thus, it might be classed with the rose-spots or the tympanites of typhoid, the rigidity and tenderness of appendicitis, the obvious edema of advanced nephritis, or the classical or cardinal symptoms of many another disease. This, to repeat, is, however, only my own personal conviction, and perhaps will not bear the strain of rigid scientific scrutiny.

RHEUMATISM.*

By R. F. THORNHILL, M. D., Pulaski, Va.

The subject of rheumatism is very indefinite. No attempt will be made to classify, define or respond to the various questions which may arise in the discussion.

Rheumatism is a disease of undetermined *etiology*. The acute disease is fatal only in a small proportion of cases, 3 to 5 per cent. The cardiac sequelae are among the most important of medical conditions.

The *diagnosis* must rest upon direct consideration of symptoms, signs, and course of disease, and elimination of other conditions, as there are no characteristic or definite laboratory tests, except where purulent fluid can be obtained. The organism in such cases can be demonstrated by laboratory tests with the aid of the microscope.

Treatment and Therapeutic Indications: Absolute rest in bed, relief of pain by drugs, and local heat—preferably electric,—and comfortable position of the affected parts are necessary. As to nutrition, large amounts of fluids

*Read before the Southwestern Virginia Medical Society, at Christiansburg, Va., September 23-24, 1930.

and high caloric, but easily assimilated diet, are important.

Compounds of salicylic acid, morphine or one of its derivatives, are among the more useful drugs. Digitalis, one-half dose in cardiac insufficiency due to the toxicity of the drug in such patients, is important at times.

Surgical Indications: All foci of infection should, if possible, be removed, such as tonsils, abscessed teeth, or any focus that may be located.

Convalescence: The rate of recovery is in ratio to length and severity of illness. No patient should be allowed out of bed until free of fever, and the heart rate fairly slow, with the weight curve to practically normal. Neither should antipyretics have been administered for at least a period of two weeks.

PHRENICOTOMY IN THE TREATMENT OF SUPPURATIVE PULMONARY DISEASE.*

By C. P. CAKE, M. D., Detroit, Mich.

Paralysis of one-half of the diaphragm by interruption of the phrenic nerve in the neck for the treatment of both tuberculous and non-tuberculous suppurative disease of the lung is a procedure which in recent years has attracted more and more the attention of the medical profession.

Originally suggested by Stuertz in 1911 and later by Sauerbruch in 1913 as a measure especially indicated when there is a tuberculous or bronchiectatic cavity in the lower lobe, as experience with it has increased, its field of applicability has steadily widened. Now it is being used with a fair measure of success in many far different types of disease from those for which it was first suggested.

Paralysis of the diaphragm on one side eliminates the pumping motion on that side and causes that half of this muscle to immediately assume the position of full expiration. As the muscular atrophy progresses in the paralyzed half, it gradually becomes thinned out and stretched. As this occurs it is forced upward by the negative pressure in the chest, the elasticity of the lung and the intra-abdominal pressure. Unless the diaphragm has become thickened and fibrotic, due to inflammatory changes, or the lung is indurated and inelastic, a quite considerable elevation takes place, as a rule.

By this elevation of the diaphragm, it is estimated that, when the maximum has been attained, in the average case the volume of the lung is reduced about 25 per cent.

The relaxation afforded the lung by paralysis of the diaphragm and its subsequent elevation is not confined to the basal portions as was first supposed. It takes place in all portions fairly equally, but it is greatest where the elastic tension is greatest, as, for instance, where there is shrinking fibrous or scar tissue. Also, it has been demonstrated by Sewall, of Denver, that the diaphragm, by its pumping motion, is largely responsible for the motion of the lung in the apical region. As this is the most common site of tuberculous infiltrations, paralysis of this muscle will afford rest where it is so frequently needed.

The clinical and anatomical effects of phrenicotomy are similar to those of artificial pneumothorax and thoracoplasty, though less marked because the relaxation afforded is less marked.

Due to a modification of the blood and lymph circulation which takes place in the lung, the motion and volume of which is diminished, there is a reduction in the spread of toxins from the lesion in the lung. Therefore, within a short time the temperature, pulse and general condition of the patient are often much improved.

The cough and sputum are frequently markedly diminished after a short time. Contrary to what might be expected following paralysis of the diaphragm, we have observed that the sputum is raised more easily and, therefore, the coughing is less violent. This improved drainage hastens healing and reduces toxic absorption from excretions. It also diminishes the danger of spread of the disease by aspiration of infective material into healthy portions of the lung.

Healing of the lesion is favored by the rest afforded the lung and the improvement in the general condition of the patient. When there is cavitation, the cavities are often closed. Whether or not a given cavity will be closed by this procedure depends, of course, upon its size and the rigidity of its walls. Obviously the limited relaxation afforded by the elevation of the diaphragm cannot be expected to close very large cavities or cavities with thick indurated walls. However, small or moderately

*Read by title at the sixty-first annual meeting of the Medical Society of Virginia, in Norfolk, October 21-23, 1930.

large thin-walled cavities and moth-eaten areas are frequently obliterated.

The conditions for which phrenicotomy has been employed with greatest success are pulmonary tuberculosis and pulmonary abscess. It has been used with less success in the treatment of bronchiectasis. It will be the purpose of this paper to discuss the indications for its employment in these conditions.

Because of its relatively recent development as a therapeutic measure, the indications for the use of phrenicotomy are, as yet, not clearly defined. As with all new procedures, it has its adherents and its skeptics. Claims have been made for it which are all out of proportion to what might reasonably be expected from it, and, on the other hand, it has been the object of criticism which it does not seem to deserve. We believe, however, that it has proven its value in certain types of pulmonary disease.

The indications for its employment will be considered separately for each of the three conditions named above: First, tuberculosis; second, pulmonary abscess; and third, bronchiectasis.

TUBERCULOSIS.—As we understand the indications for the use of phrenicotomy in pulmonary tuberculosis, they fall under three headings: First, as a sole therapeutic measure; second, as a supplementary measure to artificial pneumothorax; and third, as an adjunct to thoracoplasty.

When we say phrenicotomy as a sole therapeutic measure, we mean that it is the only surgical procedure employed. No form of surgery that is used in pulmonary tuberculosis should be thought of as excluding or replacing bed-rest and hygienic management. Phrenicotomy is a supplementary measure done to afford additional rest and improved drainage to the diseased lung.

As a sole therapeutic measure, then, it has a very definite value. In certain cases of limited disease, it may be used to the exclusion of artificial pneumothorax. It has an advantage over the latter in that it is accomplished at one sitting and, therefore, eliminates the necessity for the patient to return for refills over a long period of time and avoids all danger of the complications which sometimes attend artificial pneumothorax.

It would obviously be unwise to rely upon the limited relaxation afforded by the former when there is extensive cavitation or infiltra-

tion of the lung and artificial pneumothorax could be done. However, there are many patients who present lesions of a type for which, in the past, artificial pneumothorax has been done, but which in reality require no more relaxation than that afforded by phrenicotomy.

In making the decision whether to do phrenicotomy or artificial pneumothorax, several factors must be considered. First, as has already been said, is the question of the extent and character of the lesion. A lesion which is acute and exudative, and of considerable extent, and one which shows extensive cavitation, both require more relaxation than can be expected from paralysis of the diaphragm. Therefore, they should not be trusted to this procedure alone. On the other hand, a productive lesion of moderate extent, without visible cavitation or with one or two small cavities or a moth-eaten area, which shows a slow progressiveness or an early exudative lesion of limited extent may be treated by it with a reasonable hope of obtaining a good result.

The second factor which should be considered is the age of the patient. Because of the rapidity with which pulmonary tuberculosis progresses in young people, when a case presents itself that is suitable for either of the two forms of treatment under consideration, it is best to give the diseased lung the benefit of the maximum relaxation. Therefore, in patients under twenty years of age artificial pneumothorax is preferable to phrenicotomy whenever it can be done.

It must be remembered that there can be no hard and fast rule adopted in making the decision between the use of phrenicotomy and artificial pneumothorax. There is always present in the background that unknown quantity—the resistance of the patient to the disease. As we have no true measurement of that, in every case our best judgment must be our guide, and that is always fallible. However, we do know that many patients with pulmonary tuberculosis can be cured when given the benefit of phrenicotomy, and we are often happily surprised at the way our less hopeful cases respond to it. Therefore, unless we let our enthusiasm befog our judgment, we can feel reasonably sure of obtaining a good measure of success in using it in apparently suitable cases as a substitute for artificial pneumothorax. In any case, if artificial pneumo-

thorax has been tried and found impossible of accomplishment, phrenicotomy should be done.

Unlike artificial pneumothorax and thoracoplasty, phrenicotomy does not require the complete or almost complete integrity of the contralateral lung. Therefore, in certain bilateral cases of febrile and rapidly progressive pulmonary tuberculosis, it may be used on the worst side. The outlook in these cases is not so good but it is not hopeful anyway, and sometimes startlingly good results are obtained. Even if this does not prove sufficient to cause an arrest of the disease, the reduction in the toxemia may enable the better lung to improve to such an extent that artificial pneumothorax or thoracoplasty can be employed later.

In chronic bilateral cases which show a slow progressiveness and little promise of becoming arrested without the employment of some special form of treatment, the relaxation afforded by the paralysis and rise of the diaphragm on the worst side is frequently the deciding factor in converting an otherwise hopeless case into an arrested one.

Then, there are certain individuals who, having achieved an arrest of their tuberculosis under sanatorium treatment, lack the moral stamina to continue a proper regulation of their habits after leaving the sanatorium to prevent a relapse of their disease occurring. In these, phrenicotomy on the side where the disease was worst is indicated as a safeguard to the patient after his release from supervision. The limitation of pulmonary activity thus afforded may be regarded as enforced rest and lessens the danger of reactivation of the disease.

The chief usefulness of phrenicotomy when used in conjunction with artificial pneumothorax is in those cases where there are adhesions between the lung and the diaphragm. In these the paralysis and rise of the diaphragm definitely enhance the effectiveness of the pneumothorax. The elimination of the pumping motion makes a better immobilization of the lung possible, and the elevation aids in producing a better collapse. When there are also other adhesions between the lung and the chest wall, relaxation of the diaphragmatic adhesions relieves the tension on them, and thereby frequently permits the closure of cavities which because of them have been held open. In cases of this kind which are com-

plicated by hemoptysis, this releasing of tension on the adhesions is very efficacious in stopping the hemorrhage. When the tension on the diaphragm is producing a persistent, irritative, non-productive cough or pain, relief may be obtained from the use of this procedure.

A valuable use for phrenicotomy in conjunction with artificial pneumothorax is observed in cases in which the lung is being allowed to re-expand at the termination of the treatment. When there was extensive cavitation and infiltration of the lung before the artificial pneumothorax was begun, it is preferable to limit the expansion to prevent the reopening of cavities and tearing open of shrunken tubercles. This the reduction in the volume of the hemothorax produced by the rise of the diaphragm makes possible.

Then, in certain cases in which the pneumothorax has been maintained for a long time the lung will not re-expand to its former limits and, as the air is absorbed, displacement of the mediastinum results. If this is extensive, dyspnea, pain and circulatory embarrassment may result. Here again the reduction in the volume of the hemothorax is of value.

When phrenicotomy is used as an adjunct to thoracoplasty, the chief benefits are derived when it is done preliminary to the latter operation. The improvement in the patient's general condition which results from it is a valuable aid because they are, as a rule, none too good risks anyway, and it occasionally occurs that the improvement is so great that the larger operation is rendered unnecessary. Then, too, when the disease is chiefly in the apex it may make only the resection of the upper ribs necessary.

PULMONARY ABSCESS.—The second condition for which phrenicotomy may be used is pulmonary abscess. Here again it must not be thought of as excluding or replacing the traditional forms of treatment. It is simply used as a supplementary procedure to bed-rest and postural drainage. In these cases it is valuable because it provides additional rest to the diseased lung and improves drainage. The reduction in volume of the lung also aids in closing the abscess cavity.

Not so long ago, artificial pneumothorax was looked upon with considerable favor in these cases. However, the frequency with which it

is followed by rupture of the cavity wall and spilling of its contents into the intra-pleural space with the production of empyema has discredited it. Also, collapse of the lung around the abscess cavity sometimes interfered with rather than improved drainage, and the pus became locked up in the cavity. Therefore, at the present time, unless the abscess cavity is centrally located in the lung, it is thought unwise to employ artificial pneumothorax.

On the other hand, while the mechanical effects produced by phrenicotomy are practically the same as those produced by artificial pneumothorax, though less marked, the results from the use of the former in the treatment of pulmonary abscess have not been marred by these complications. These mechanical effects are theoretically ideal for the treatment of this condition and, therefore, we believe that phrenicotomy is indicated. The cases which we have observed under this form of treatment have justified this belief.

Why there should be this difference in the results obtained from the use of two forms of treatment, the effects of which differ only in degree, it would be difficult to say. However, this difference in degree may be the important factor in that the circulation in the lung is disturbed less by phrenicotomy than by pneumothorax and, therefore, the lung is given the benefit of improved drainage, additional rest and the closure of the abscess cavity without such a marked disturbance of the blood-supply.

BRONCHIECTASIS. — Phrenicotomy has not been as successful in the treatment of bronchiectasis as it has in the other two conditions which have been discussed. Certain benefits have been observed in some cases but few, if any, cures have been made.

However, it is indicated when the patient has a basal bronchiectatic cavity which is difficult to empty. The improved drainage afforded by the elevation of the diaphragm tends to aid in accomplishing this and thereby renders the cough less violent and the sputum less offensive. Hemoptysis in these cases may often be stopped by this procedure.

As to the type of operation best suited in the three conditions discussed it must be remembered that when the phrenic nerve is crushed, its function is restored in from six to twelve months. When it is avulsed, with

all of the accessories, the paralysis is permanent.

In tuberculosis, six to twelve months is too short a time to expect a pulmonary lesion to heal completely, especially if there are excavations. In pulmonary abscess, on the other hand, this length of time should be sufficient. In bronchiectasis, it is very doubtful that bronchiectatic cavities become cured at all, and as the chief benefit is the mechanical one of improved drainage, it should be made permanent.

Therefore, in the treatment of pulmonary tuberculosis and bronchiectasis, the operation of choice is avulsion of the phrenic nerve and its accessories, if any, producing permanent paralysis of the diaphragm on one side. In cases of pulmonary abscess, on the other hand, simply crushing the nerve and its accessories is the preferred operation.

Herman Kiefer Hospital.

LIPIODOL INJECTION OF UTERUS AND TUBES—DIAGNOSTIC AND THERAPEUTIC VALUES.*

By GILBERT F. DOUGLAS, M. D., Birmingham, Ala.

Until a few years ago the study of uterine and tubal pathology was quite limited, so far as the X-ray was concerned, in being able to visualize these organs.

The study of Rubin and others by inflating the tubes to ascertain their patency with oxygen or carbon dioxide gas aroused a great deal of interest in the study of sterility, for by this method the patency of the tubes was determined, which hitherto was not; but with this being accomplished, still the location of the tube, or if obstructed, the exact location of the occlusion could not be determined unless at the time of operation the tubes were probed or gas or air was injected.

In 1922, Sicard and Forestier,¹ of Paris, after experimenting with lipiodol (40 per cent solution of iodine in poppy seed oil), by injecting into the tissues, finding it to be non-irritating, then injected it into the spinal canal to aid in locating tumors of the spinal cord. They injected 1 to 2 c.c. of lipiodol into the spinal canal without any injurious effects.

In 1923, Sergeant and Cottentot² first studied dilatations of the bronchi and bronchiectasis in adults by intratracheal injections of lipiodol

*Presented before the Chattahoochee Valley Medical and Surgical Association in Albany, Ga., July 8, 1930.

through the crico-thyroid membrane; they reported no ill effects.

About the same time, Armand-Delille³ and associates applied the same method in children.

In October, 1925, David H. Ballou,⁴ of Montreal, in a preliminary report on the use of lipiodol in lung conditions, stated it was rapidly eliminated by coughing or absorption from the alveoli, and no ill effects were noted.

In 1926, Dr. Forestier, of Paris, came to this country and demonstrated his uses of lipiodol. Following these demonstrations of its uses in spinal canal, sinus, lungs, etc., Dr. Quitman U. Newell,⁵ of St. Louis, used it by injecting the uterus and tubes for diagnostic purposes. The value of this diagnostic method is obvious to every one doing gynecological or any other line of work where the question of patency of the tubes is to be considered.

The question of sterility in women is one that always meets with baffling proportions, both to the physician who is trying to first satisfy his own mind, and, secondly, the mind of his patient as to just why she cannot become pregnant.

After a complete physical examination to eliminate all possible causes, then eliminating any fault of the husband, we are face to face with the problem as to whether the tubes are open. With gas or air inflations we have been able to determine the patency, but not to visualize the tubes, and, if occluded, note the exact location of obstruction before operation. With lipiodol injections we have a method of diagnosis by which we can study the uterus and tubes as we do the kidneys and ureters in pyelograms.

The technic is comparatively simple if proper aseptic precautions are used. The instruments needed are (1) tenaculum forceps, (2) 10 c.c. Luer syringe, (3) uterine sound, (4) Keys-Ultzman urethral cannula with a rubber tip (which acts as a plug to prevent the lipiodol from being expelled from the uterus before X-ray is made), (5) sponge forceps, (6) Graves' bivalve speculum, (7) medicine glass with tincture of iodine, (8) cotton balls for cleansing and application of iodine.

Technic: Patient is placed on X-ray table in lithotomy position, draped as for gynecological examination; speculum is then inserted, the cervix exposed, and painted with tincture of iodine. Posterior lip of cervix is grasped with tenaculum forceps, when the uterine sound is gently passed through the cervical canal to

rule out obstructions that would prevent cannula passing through. Cannula is then passed into canal for 2 or 3 c.m., bringing the rubber tip tightly within the external os to prevent solution flowing back as it is being injected into the uterine cavity and tubes. With the syringe filled with the lipiodol (which has just previously been heated to make more liquid), about 6 to 8 c.c. (this being determined by size of uterus) is injected. The patient can tell you if pressure is too great, causing pain. When injection can be continued only under high pressure, it is evident that the cavity is filled. Hold cannula with solution in place. The X-ray picture is then made. Film should be placed in developer at once to see if all right before removing cannula, which would allow solution to flow out into the vagina. If picture is all right, patient may go home immediately. This work may be done in your X-ray room, office, or hospital. I have seen no ill effects other than cramping, as a dysmenorrhea.

In addition to the very valuable aid in diagnosing as to sterility, this procedure proves very valuable in the diagnosing of pelvic pathology in pyosalpinx, hydrosalpinx, etc. If the tubes are not closed at their proximal ends, in the cornu, the solution will pass out into the tubes and can be visualized by the X-ray, showing just the location of obstruction, which is helpful if operation is done later.

I am not going to discuss in this paper, but merely mention, the very valuable help of iodized oil injections of the uterus and tubes in conjunction with pneumoperitoneum in diagnosing uterine, tubal or ovarian troubles, with the X-ray. This method can bring out the details of pelvic pathology almost as clearly as seen in the study of the gastro-intestinal tract, gall-bladder or chest. Stein and Arens⁶ have contributed a great deal to this field.

After injection of iodized oil or lipiodol into the uterus and tubes, this fact should be conveyed to the X-ray man if there should be subsequent pictures made of the pelvis or abdomen within a few weeks following the injection, for the media will cast a shadow until it has time to become absorbed, which is at times a number of weeks.

Patients should be re-rayed within a few hours or a day or so after injection to determine if the lipiodol has passed through the tubes into the free peritoneal cavity.

Some of the contraindications to the use of this method of diagnostic procedure are the

presence of acute infections of the uterus or tubes, for fear that pathogenic bacteria would be carried into the free peritoneal cavity; however, with proper selection of cases, careful asepsis, etc., I feel the chances are rather remote.

Due to the rather high price of lipiodol, an American made product, iodipin (which is a 40 per cent iodine solution in vegetable oil) has been put out by Merck; however, the prices which I have been able to receive are about the same as lipiodol.

CASE REPORTS

Case No. 1.—Mrs. E. M., age forty-five, one pregnancy, normal delivery eighteen years

No. 1-B shows re-ray of Case No. 1 two days later, showing lipiodol in free peritoneal cavity.

Case No. 2.—Mrs. O. B. C., age thirty-two, normal menstrual history, one delivery twelve years ago, no subsequent pregnancies. By test for patency with air, both tubes found closed. Uterogram May 14, 1929. Injected lipiodol confirmed former test for patency as shown in Fig. No. 2. Laparotomy May 18, 1929. Both tubes were found infected, occluded and were removed.

Case No. 3.—Mrs. T. E. B., age thirty-seven, menstruation regular, married ten years, never pregnant. General health poor, no special pain



Fig. 1-A.



Fig. 1-B.

previously. Still menstruating but irregular at times. Came to me January 31, 1930, complaining of vaginitis. On examination was found to have gonorrheal cervicitis. After infection was cleared, uterogram was made May 30, 1930, which showed definite evidence of both tubes being patulous as shown in Fig. No. 1-A. Lipiodol in tubes as shown by arrows.

or pathology found about uterus or tubes on bimanual examination. Uterogram June 28, 1930, which shows in Fig. No. 3-A to have the lipiodol in the left tube but none seen in free peritoneal cavity.

Re-ray of Case No. 3 shown in 3-B, made about twenty-four hours after Fig. No. 3-A, shows evidence of media free in abdominal cavity as indicated. This probably met with a spasm of the tube at time of injection of the uterus or did not have sufficient pressure to force through. Tubes with mild occlusion might be opened by this method.

Case No. 4.—Mrs. V. J. G., age twenty-one, menstrual history normal; one labor in 1924, at which time she had no trouble, no abortions, no miscarriage. Came to ascertain why she did not become pregnant again. Uterogram made April 22, 1929, showed both tubes to be patulous as indicated in Fig. 4-A.

Fig. 4-B is same case as No. 4 taken a few minutes after Fig. No. 4-A, which shows lipiodol in the peritoneal cavity as indicated.

Case No. 4 re-rayed three hours after injection showing media well distributed in peri-



Fig. 2.

This case is one which escaped injuries of tubes by gonorrheal infection.

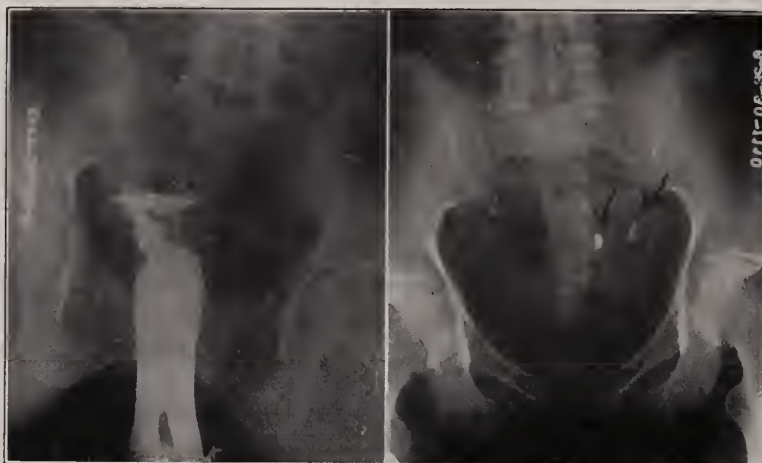


Fig. 3-A.

Fig. 3-B.

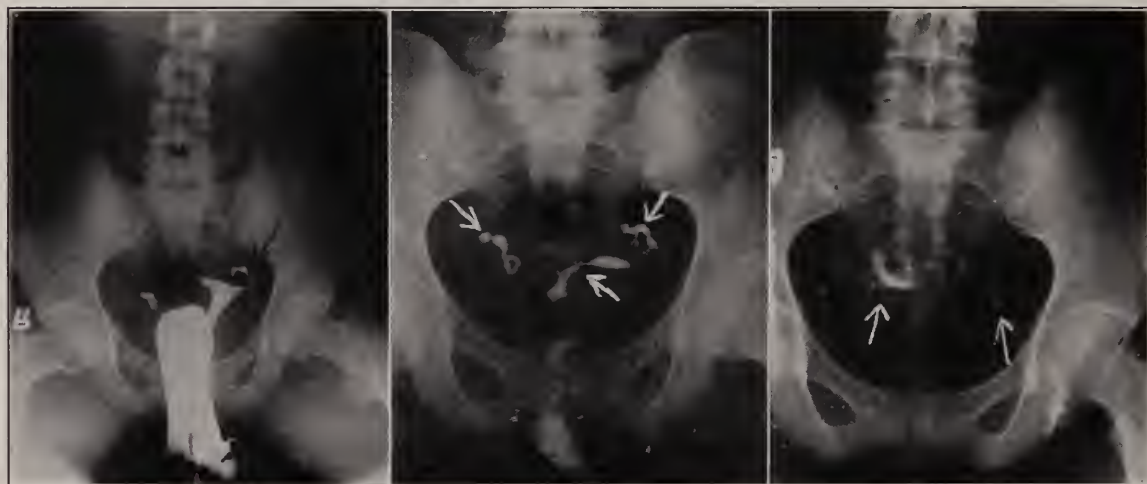


Fig. 4-A.

Fig. 4-B.

Fig. 4-C.

toneal cavity as indicated in Fig. No. 4-C, also some remaining in tubes.

CONCLUSIONS

1. Uterograms made with lipiodol or iodized oil media are of great value in the study of the uterus and tubes in sterility cases.

2. In cases of pelvic pathology with question of pyosalpinx or hydrosalpinx, if causing mild occlusion, not only is this method of diagnostic value but of therapeutic aid.

3. To be able to study the tubes with X-ray is of benefit in the differential diagnosis between appendicitis and salpingitis on the right side.

4. Iodized oil injections in conjunction with

pneumoperitoneum offers much in X-ray study of the uterus, tubes, ovaries and pelvic pathology.

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President's Message

Maternal Mortality vs. Prenatal and Postnatal Care.

(IN COMPLIMENT TO THE SOCIETY'S COMMITTEE ON MATERNAL WELFARE)

Our scientific activities must continue to grow, and it is a pleasure to record at this time the absolute proof of one of our scientific theories. It not infrequently happens that Medicine is charged with being an inexact Science and an imperfect Art, because experiments on a broad enough scale have not been conducted to verify our theories.

Typhoid fever, smallpox and diphtheria and probably some other infections in the last quarter-century have yielded to scientific control, and tuberculosis has been reduced to practically half its former toll, but our maternal death rate has not been lowered at all in the forty-six states that comprise the birth registration area in continental United States, having been 7.0 per one thousand live births in 1929, this being .5 higher than the rate for 1927, the last year for which the summary was published.

Today, our maternal death rate is known to be the highest in the civilized world, Denmark being the lowest, and apparently this disgraceful record of ours has been accepted supinely by the Medical profession, and only insignificant attempts to combat it and institute adequate maternity care have been undertaken.

Fortunately, however, the past month has brought us a report from The Maternity Center Association in New York City that heartens us to amplify and accentuate our methods, and instead of rationalizing over such a situation, to prepare to meet it face to face with more energetic professional activity.

This report, which has been confirmed by the writer in personal conversation with the assistant director, covers a period of observation long enough for a satisfactory test, and contains complete records of a large enough number of women who availed themselves of prenatal and postnatal care in the same locality, as compared with others in that particular locality, "the control group," to make its findings conclusive that the methods heretofore suggested, and now for the first time so systematically carried out, were effective in decreasing

the maternity mortality rate over a long period of time.

The methods employed were not new, but were persistently enforced by doctors and nurses who had to overcome also the prejudices and objections of many foreigners to hospitals and physicians alike.

The important facts in this report presented for the first time, and really containing the elements of one of the first scientific investigations of this subject on a large scale, are as follows:

1. Time: Six years;
2. Place: A section of New York City;
3. Population: 152,947;
4. Cases cared for: 4,728;
5. Results in maternal mortality in above group: 2.2 per 1,000 live births;
6. Results in mortality through same period among mothers not cared for, but living in the same section, "the control group": 6.2 (about the same as our National maternity mortality rate, but nearly three times as great as the "supervised" patients);
7. Methods employed: Continuous and adequate prenatal and postnatal care by competent doctors and nurses;
8. Locations: Private homes and maternity hospitals; and
9. Implications: That infant mortality can be radically reduced, and that relatively "30,000 babies that die each year before they are one month old, could live, and that 10,000 of the 10,500 women who die annually, might be saved," if all mothers knew what constitutes "adequate" care.

This maternity association report is as remarkable as it is convincing, and challenges us to attempt to duplicate these methods in our own practice.

As for the methods employed to gain these results, there was nothing new, and it is only the evidence presented by the record as a whole that is new. The results show also that the methods long advised were correct in theory, and thus another outstanding experiment, carried on with a living community as the laboratory, has been successful in demonstrating that another great and disastrous phase of disease can be decreased in its ravages.

The vital points in the work were:

a. Expectant mothers were urged to seek medical and nursing care as early as possible, and the benefits increased directly with the length of time the women were under observation;

b. Women were aided in making these arrangements before the confinement, at the time of, and for six weeks subsequently by the district nurses, who taught the mothers what to eat, what to wear, and how to live hygienically; and

c. Each patient was urged to register as early as possible with a competent physician, or hospital, and, after registration, was sympathetically guided by the nurse, who reported on each patient at regular intervals.

These general methods can be employed in a measure anywhere, but to produce conclusive results, must be carried out systematically, and as a further necessary requisite, there should be created a genuine, personal interest in the patient, as well as the creation of an informed public opinion that will demand adequate maternity care.

All true education is directed self-education, and this report again positively confirms an old scientific theory.

J. ALLISON HODGES, M. D.,

President, Medical Society of Virginia.

NEXT ISSUE: The County Medical Society: *The Business of Medicine vs. The Art of Medicine.* (In compliment to Department of Clinical Education).

Miscellaneous

Astonishing Relativity.

Relativity is a magic word. Einstein made it so. Long before that celebrated genius was born, however, men found it impressive to measure problems and conditions in relation to other things. This sort of relativity a canny observer in the field of public health has used to express in a rather amazing light the magnitude of the syphilis problem in the United States.

Since 1920, this observer points out, there have been reported in the United States 35,000 more cases of syphilis than of scarlet fever; 79,000 more than of all forms of tuberculosis; 500,000 more than of diphtheria. There were three times as much syphilis as smallpox and five times as much syphilis as typhoid fever reported during the same period.

The figures for Illinois, which go back through 1923 only, are somewhat different in relativity from those enumerated above for the United States. Over this period of seven years the 83,515 cases of syphilis reported in Illinois gave a figure over eight times greater than that of typhoid fever prevalence, 10,149 cases. The reported cases of syphilis were 71,000 greater than of smallpox; 34,910 greater than of diphtheria; 12,624 greater than of whooping cough.

There were about 9,000 more cases of scarlet fever and about 18,000 more cases of tuberculosis than of syphilis reported in Illinois.

In appraising the public attitude towards the control of these diseases, Dr. John H. Stokes remarks that a typhoid carrier can all but be imprisoned for life but how rarely a syphilis carrier!

Stokes observes, further, that both by direct and indirect reasoning it appears, as a result of observations made during the past decade, that syphilis is controllable by treatment of infected persons. He is optimistic enough to look forward, in view of the decline in syphilis since 1918, to the extinction of this disease, provided present control and preventive methods continue in sufficient application. (*Ill. Health Messenger*, September 1, 1930.)

Book Announcements

Abdomino-Pelvic Diagnosis in Women. By ARTHUR JOHN WALSCHEIL, M. D., Director of Obstetrical and Gynecological Department of Broad Street Hospital; Director of Obstetrical and Gynecological Department of Pan-American Medical Center and Clinics, New York City; Consultant in Gynecology and Obstetrics to Margaret Hague Maternity Hospital, Jersey City, N. J., etc. St. Louis. The C. V. Mosby Company, 1931. Octavo of 1,000 pages. With three hundred ninety-seven illustrations, one color plate. Cloth. Price, \$12.50.

Clinical Allergy Particularly Asthma and Hay Fever. Mechanism and Treatment. By FRANCIS M. RACKEMANN, M. D., Physician to the Massachusetts General Hospital, Instructor in Medicine, Harvard Medical School, Boston, Mass. New York. The Macmillan Company. 1931. Octavo of 617 pages. Cloth. Price, \$10.50.

Certified Milk Conferences Held in 1930. Annual Conference American Association of Medical Milk Commissions, Inc., and Certified Milk Producers' Association of America, Inc. Detroit, Michigan, June 23-24, 1930. Annual Conference Metropolitan Certified Milk Producers' Inc., with the Certified Milk Producers' Association of America, Inc. New York, N. Y., February 3, 1930. Constitution and By-Laws of the American Association of Medical Milk Commissions, Inc., Constitution and By-Laws of the Certified Milk Producers' Association of America, Inc., Methods and Standards for the Production of Certified Milk. Octavo of 354 pages.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Cooperation.

The following letter was sent out in January to the Councilors:

"I am calling on the Councilors to get in touch with the officers of the various component societies in your Districts and arrange for as many clinical meetings as possible. We should be able to hold at least two meetings with clinics in each District during the year. With your cooperation and assistance this can be done.

"Please notify our Secretary, Mr. G. W. Eutsler, and the chairman of this department, of the dates of proposed meetings. Also, let us know if we may assist you in working up the meetings or in securing Clinicians to take part in the programs.

"The Department of Clinical Education Advisory Board, the Medical Department of the University of Virginia and the Medical College of Virginia are co-operating and anxious to make all of our clinical meetings attractive and stimulating."

Our purpose in sending out these letters is to assure ourselves of the hearty cooperation and interest of the Councilors, in the continued education of the practitioners of the state, and to further transmit this enthusiasm and interest in the work, to the officers of the various component societies, and through them to the individual members, and by this means to bring the physicians of the state, as a body, to realize the importance of giving better service, which can only be done by keeping abreast of the times, and improving our methods of treatment in every way possible. The success of a clinical meeting is not of necessity dependent on the numbers who attend, nor the prominence of those appearing on the program. The spirit of cooperation and interchange of ideas at these gatherings stimulates interest, research, and study. We should not be discouraged by small crowds nor the apparent lack of enthusiasm on the part of some of our associates.

It is part of this campaign to enlist the interest of men who have gotten out of the habit of attending medical meetings and are neglecting to do any post-graduate work. These are not, by any means, confined entirely to the country districts—a perusal of the list of those who attend our state society meetings will show that only a small proportion of doctors in the cities and larger towns attend these, or any other medical meetings. It is also true that our clinical meetings will have a small

number in attendance as long as the component societies fail to meet regularly, or neglect to have stimulating and attractive programs.

"The case for life-long education, systematic, and purposeful, rests upon the evident desirability of what Jastrow has called 'the continued stimulation of the mature mind.' That keen-edged tool, the intellect, is kept bright by use, dulled by disuse; rusting out, not wearing out, is what threatens it. Intelligence, according to Meiklejohn, is not 'a thing you can have, can get and keep and give; it is a thing you must do; it is activity; it is a function of the human spirit.'"

Those of us who are interested in the work of this Department should read with pleasure Dr. E. G. Williams' very instructive and comprehensive paper "Evolving a Health Department." We should take great pride in the tremendous progress and notable accomplishments of our State Health Department under the direction and leadership of Dr. Williams.

It is needless at this time to try to enumerate the numberless discoveries and advancements made in preventive medicine and sanitation during the past few years. This campaign for better training and continued education of physicians is closely related to and associated with preventive medicine and health measures. The practitioner is as much interested in preventing as in the treatment of disease. The health authorities and their associates are special workers in preventing disease through sanitation and other accepted methods.

There should be no conflict, but hearty cooperation between those engaged in these various departments of medicine. We might with profit at a later date have some interesting discussions by leading health workers and outstanding clinicians, dealing with the important question, of coordinating clinical meetings, held for the purpose of educating and training practitioners, and diagnostic health clinics, conducted by specialists for the benefit of those unable to employ a physician.

I. C. HARRISON, *Chairman*.

SCHEDULED MEETINGS

The Norfolk County Medical Society announces the following programs for February, the meetings

*University of Virginia NEWS LETTER—January 15, 1931.

to be held at their headquarters in Medical Arts Building, Norfolk, Va. Members of the Medical Society of Virginia are invited to attend any or all of these meetings:

Monday, February 9, 1931. SURGICAL SECTION.—Surgical Treatment of Cancer of the Breast, Dr. B. A. Doggett.

Treatment of Cancer of the Breast with Radium, Dr. E. C. S. Taliaferro.

Monday, February 16, 1931. SECTION ON MEDICINE.—An Unappreciated Source of Epigastric Distress, Dr. Jas. W. Hunter.

Streptococcus Viridans in Endocarditis, Dr. Arthur D. Parker.

Thursday, February 19, 1931. SECTION ON EYE, EAR, NOSE AND THROAT—Anatomy and Physiology of the Static and Kinetic Labyrinth, Dr. Jos. S. Hume.

Monday, February 23, 1931. SECTION ON OBSTETRICS.—Treatment of Placenta Praevia, Dr. Geo. T. Myers.

The Post-Graduate Medical Society of Southern Virginia will hold its regular meeting at Waverly, April 14, 1931. A symposium on Obstetrics will be held in cooperation with the Department of Clinical Education of the State Society.

Dr. Frank N. Mallory, Lawrenceville, is president, and Dr. Philip Jacobson, Petersburg, secretary of the Society.

Proceedings of Societies

The Piedmont Medical Society

Met at the University of Virginia on December 4th, with a registered attendance of twenty-one. The program consisted of a clinico-pathological conference at which four cases were presented. These were discussed by the members of the visiting staff of the University of Virginia Hospital, in the departments of Surgery, Pediatrics, and Medicine.

After the business meeting supper was served at the Farmington Country Club.

Dr. J. N. Clore, Madison, is president and Dr. W. E. Bray, University, secretary-treasurer of this society, which is composed of the counties of Albemarle, Buckingham, Culpeper, Fluvanna, Greene, Louisa, Madison, Nelson, Orange and Spotsylvania.

The Albemarle County Medical Society

Held its regular monthly meeting, January 8th, with the president, Dr. D. C. Smith, presiding. Dr. Alfred Chanutin addressed the Society on the subject of Vitamins, and Dr. Robert L. King reported a case of Addison's Disease in a Negro.

Several new members were admitted to the Society and the following officers were elected for the ensuing year: President, Dr. F. C. McCue, Charlottesville; vice-president, Dr.

V. W. Archer, University; and secretary-treasurer, Dr. A. D. Hart (re-elected), University.

Accomack County Medical Society.

The annual banquet and ladies' night of this society was held December 9, 1930, in conjunction with the Physicians' Journal Club, with Dr. W. W. Kerns, retiring president acting as toastmaster at the banquet. Interesting talks were given by Drs. John R. Hamilton, Harry Denoon, J. L. DeCormis, James E. Doughty, J. H. Hiden, and S. S. Kellam.

The following officers were elected for the ensuing year: President, Dr. J. H. Hiden, Pungoteague; vice-president, Dr. James Doughty, Onancock, and secretary-treasurer, Dr. John W. Robertson (re-elected) Onancock.

The Physicians' Journal Club of the Eastern Shore of Virginia

Held its regular monthly meeting at the Northampton-Accomack Memorial Hospital, on January 13th, with an attendance of twenty-four physicians. The president, Dr. John W. Robertson, presided. Papers were presented by Drs. Frank Johns and Beverley Tucker, both of Richmond. The Journal Club is composed of all doctors in Accomack and Northampton Counties.

The Post-Graduate Medical Society of Southern Virginia,

Composed of the counties of Nottoway, Dinwiddie, Prince George, Greensville, Brunswick, Surry, and Sussex, held its regular meeting at City Point Inn, Hopewell, Va., on the evening of January 13th, under the presidency of Dr. Joel Crawford, Yale. The Department of Clinical Education of the State Society cooperated in the holding of this meeting. There were about 100 in attendance. During the dinner which opened the meeting, Dr. Manfred Call, Richmond, reported on the activities of the Department of Clinical Education for the past year. The feature of the meeting was a symposium on "Allergy." Those presenting papers were Dr. Oscar Swineford and Mr. Edward Hawke, of the University of Virginia; Dr. Warren T. Vaughan, Richmond; Dr. Edward L. Alexander, Newport News; Drs. Meade Edmunds and C. S. Dodd, Petersburg. Dr. J. A. Hodges, President of the State Society, also gave a talk.

At the election of officers which followed, Dr. Frank N. Mallory, Lawrenceville, was elected president; Drs. W. W. Seward, Surry,

and W. D. Prince, Stony Creek, vice-presidents; Dr. Philip Jacobson, Petersburg, secretary-treasurer; and Dr. Wright Clarkson, Petersburg, chairman of the steering committee. Both of the latter were re-elected.

Dr. J. M. Bailey, Hopewell, was elected delegate, and Dr. W. M. Phipps, also of Hopewell, alternate-delegate to represent Prince George County in the House of Delegates at the next meeting of the State Society.

The next meeting of this Society will be held at Waverly, on April 14th.

Woman's Auxiliary, to the Medical Society of Va.

Reports From Auxiliary to Southern Medical Association.

The Woman's Auxiliary to the Southern Medical Association has Medical History as its project. This Auxiliary is affiliated with the Auxiliary to the American Medical Association, in the same manner as the Southern Medical Association is affiliated with the American Medical Association.

The Auxiliary to the Southern Medical Association met at the Brown Hotel, Louisville, Ky., November 11th to 13th, with the President, Mrs. James Newton Brawner, Atlanta, Ga., presiding. The attendance was large and much interest shown.

After the invocation, there were addresses of welcome from the President of Louisville Auxiliary, Mrs. John K. Freeman, and President of Kentucky State Auxiliary, Mrs. E. B. Houston. Response was made by Mrs. Milton S. Lewis, Nashville, Tenn.

Dr. Hugh S. Cumming, President Southern Medical Association, brought greetings, and was much pleased with the work and growth of the Auxiliary.

There was an address by Dr. E. H. Cary, who, because he brought to the American Medical Association the resolution for an Auxiliary, is affectionately called "The Father of the Auxiliary." He talked on the "Importance of Self-Education."

Introduction of Honor Guests; Mrs. Hugh S. Cumming, Washington, D. C., Mrs. J. Newton Hunsberger, Philadelphia, Pa., President, Auxiliary to the American Medical Association, and four members of the National Board;

Mrs. S. C. Red, Historian, Mrs. Walter J. Freeman, Convention Chairman, Mrs. R. N. Herbert, *Hygeia* Chairman, Mrs. Southgate Leigh, Organization Chairman.

Mrs. Hunsberger talked along self-education and health lines. She said a "Doctor's wife is usually a very progressive club woman and, if she would devote her time to cultural, social, and civic questions, as well as making a study of medical affairs, she would be better prepared to carry the true story of medicine to the public."

Mrs. S. C. Red, Mother and First President of the National Auxiliary, first woman to write the Medical History of a state, told of writing the "Pioneer Doctor," just off the press, the proceeds from which will be devoted to Auxiliary work.

Mrs. Walter Freeman gave tentative plans for the American Medical Association Convention in Philadelphia. Even at this early date arrangements are made for a wonderful meeting.

Mrs. Herbert's "Educate with *Hygeia*" was a splendid outline for the coming year.

Mrs. Edward Clay Mitchell spoke on the "Dangers of State Medicine."

The report of "Jane Todd Crawford Memorial" was most interesting. A fund has been started by the women of Kentucky. What form the Memorial will take is to be determined by a committee of women from widespread areas. The Auxiliary to the Southern Medical Association voted to contribute fifty dollars to this fund, and recommended that each state be encouraged to establish such a fund.

The theme of this year's work is to be "Romance of Early Medicine." An effort will be made to secure the early history of outstanding Medical Heroes of each state.

The "Spring Lance," used by Dr. Ephriam McDowell (1809), was exhibited; also an old diploma (1780). There were read several histories of Medical Heroes.

Dr. Gordon Bates, Toronto, Can., Secretary General of the Canadian Social Hygiene Council, was a speaker at a luncheon of nearly three hundred guests. The program outlined "As Hygiene affects human relationships in home, community, state and nation." Dr. Bates defined Social Hygiene as "the study of all those things which concern the welfare of individuals, living in society, to the end that health

may be improved from generation to generation." He recommended annual X-ray of teeth and annual physical examinations. The speaker disapproved group teaching of sex to children. He suggested future education for parenthood, and to live up to the high standards which women have set in the past.

Following the meeting of the Auxiliary, the President, Mrs. S. A. Collom, and the retiring President, Mrs. Brawner, were invited to speak over the radio. At this time they gave to the world a few words of the manner in which the Auxiliary is assisting the Medical Profession.

On "McDowell Day," the Auxiliary members took part in a pilgrimage from Louisville to Frankfort and Danville. A statue of Dr. McDowell was unveiled at Frankfort. The sponsors were President, Kentucky State Medical Association, President, Southern Medical Association, President, Woman's Auxiliary to Kentucky State Medical Association, President, Woman's Auxiliary to Southern Medical Association. There was an address by Dr. George A. Hendon, "Ephriam McDowell—The Natural Product of His Labors."

An address on "Jane Todd Crawford—the Model Patient," was given by Mrs. P. E. Blackerby, President of the State Auxiliary.

The statue was presented by Dr. Arthur T. McCormack, for the State Medical Association, and accepted by the Governor of State, Hon. Flem D. Sampson.

The Danville program consisted of a visit to the home of Dr. McDowell, then to the public park where he is buried, to place a wreath on his grave. The Memorial address, "Ephriam McDowell—the Pioneer and Physician," was given by Dr. William Gerry Morgan, Washington, D. C., President of the American Medical Association.

The Social Entertainments were numerous and beautiful, starting with Mrs. Irvin Abell's luncheon to the Executive Board; then a reception and tea at the Woman's Club, honoring Mrs. Hugh S. Cumming, Mrs. J. N. Hunsberger, Mrs. J. N. Brawner, and the other honor guests. The evening reception and ball honored Dr. and Mrs. Cumming. The Louisville Auxiliary gave a lovely dinner and musical at the Pendennis Club for all the ladies.

Mrs. Geo. Hendon, General Chairman of the Ladies' Committee, entertained the past Executive Board at breakfast, and then an auto-

mobile ride for all the ladies to see "My Old Kentucky Home."

Respectfully submitted,

MRS. SOUTHGATE LEIGH,
Delegate.

The Truth About Medicine

In addition to the articles enumerated in our letter of November 29, the following have been accepted: Cutter Laboratory.

Oak Pollen Extract—Cutter; Western Ragweed Pollen Extract—Cutter; Western Water Hemp Pollen Extract—Cutter.

Gane & Ingram, Inc.

Ephedrine Hydrochloride.

Ephedrine Sulphate.

Lederle Laboratories, Inc.

Diphtheria Toxoid, ten immunization treatment packages.

Diphtheria Toxoid, fifteen immunization treatment packages.

Tetanus-Gas Gangrene Antitoxin (Lederle).

Gas Gangrene Antitoxin (Polyvalent) Refined and Concentrated without Tetanus Antitoxin (Lederle).

Mead Johnson & Co.

Mead's 10 D Cod-Liver Oil with Viosterol.

National Drug Co.

Diphtheria Toxin-Antitoxin Mixture (Diphtheria Prophylactic) one hundred and fifty 1 c.c. vial packages.

Diphtheria Toxoid, five (three dose) immunization treatment packages.

Diphtheria Toxoid, fifty (three dose) immunization treatment packages.

Diphtheria Toxoid, one (two dose) immunization treatment packages.

Diphtheria Toxoid, five (two dose) immunization treatment packages.

Diphtheria Toxoid, ten (two dose) immunization treatment packages.

Diphtheria Toxoid, fifteen (two dose) immunization treatment packages.

Diphtheria Toxoid, fifty (two dose) immunization treatment packages.

Schick Test.

Schick Test Control.

Tuberculin Old (Human)

Parke, Davis & Co.

Parke, Davis & Co.'s Viosterol in Oil 250 D.

Parke-Davis Cod-Liver Oil with Viosterol 10 D.

Winthrop Chemical Co., Inc.

Winthrop Viosterol in Oil 250 D.

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Antipneumococcic Serum, Type 1.—An antipneumococcus serum (New and Nonofficial Remedies, 1930, p. 351) marketed in packages of one 50 c.c. double-ended vial with apparatus for intravenous injection. The National Drug Co., Philadelphia.

Erysipelas Antistreptococcus Serum.—A specific serum containing the antibodies and antibacterial properties of *Streptococcus erysipelas*. For therapeutic use against erysipelas it may be of value when administered in adequate doses in the early stages of the disease. Though there is no evidence for the

value of nonspecific antistreptococcus serums, there appears to be some evidence for the value of a serum representing the antigenic and antibacterial properties of *Streptococcus erysipelas*.

Erysipelas Antistreptococci Serum—Lilly (Concentrated Globulin).—The serum is obtained from horses immunized with strains of hemolytic streptococci obtained from human cases of erysipelas. It is marketed in packages of one syringe containing an average initial therapeutic dose. Eli Lilly & Co., Indianapolis.

Richards Psyllium Seed.—A brand of psyllium seed—N. N. R. (New and Nonofficial Remedies, 1930, p. 311). Richards Pharmacal Co., Inc., New York.

Ointment Scarlet Red Biebrich 8 Per Cent.—An ointment composed of scarlet R medicinal Biebrich—N. N. R. (New and Nonofficial Remedies, 1930, p. 148) 8 per cent in a base consisting of stearin, wool fat and petrolatum. The National Drug Co., Philadelphia.

Typhoid—Paratyphoid A Vaccine.—This product (new and Nonofficial Remedies, 1930, p. 373) is also marketed in packages of three 1 c.c. vials. The National Drug Co., Philadelphia (Jour. A. M. A., December 6, 1930, p. 1745).

Antirabic Vaccine, Semple Method.—An antirabic vaccine (New and Nonofficial Remedies, 1930, p. 352) prepared according to the general method of David Semple (phenol killed). It is marketed in packages of fourteen vials, each containing 2 c.c.; in packages of fourteen vials, each containing 2 c.c. and a syringe; in packages of fourteen syringes, each containing 2 c.c. Medical Arts Laboratory, Inc., Oklahoma City, Oklahoma.

Diphtheria Toxoid—Squibb.—This product (New and Nonofficial Remedies, 1930, p. 364) is also marketed in packages of twenty 1 c.c. ampules of diphtheria toxoid and two 1 c.c. ampules of diluted diphtheria toxoid for the reaction test. E. R. Squibb & Sons, New York.

Normal Horse Serum.—This product (New and Nonofficial Remedies, 1930, p. 340) is also marketed in packages of one 50 c.c. vial. E. R. Squibb & Sons, New York.

Sodium Gold Thiosulphate.—Sodii et Aurii Thiosulphas.—Gold Sodium Thiosulphate.—The complex salt formed from one molecule of gold thiosulphate and three molecules of sodium thiosulphate, containing approximately 37.4 per cent of gold. The use of sodium and gold thiosulphate in the treatment of lupus erythematosus is considered a distinct advance in the therapy of this condition. The beneficial and often curative action of the drug in a good percentage of cases seems to warrant giving it a definite place in the treatment of a disease for which at present there is no specific remedy. The drug must be used with extreme caution. Dosages at first advocated have been found too great, resulting frequently in severe and even fatal reactions. Even with smaller doses, accidents have occurred.

Gold Sodium Thiosulphate—Abbott.—A brand of sodium gold thiosulphate—N. N. R. It is supplied in ampules containing respectively 0.05 Gm., 0.1 Gm., 0.25 Gm., and 0.5 Gm. Abbott Laboratories, North Chicago, Ill.

Diphtheria Toxin-Antitoxin Mixture (Diphtheria Prophylactic).—This product (New and Nonofficial Remedies, 1930, p. 356) is also marketed in packages of one hundred and fifty 1 c.c. vials, fifty immunizations. The National Drug Co., Philadelphia.

Diphtheria Toxoid—This product (New and Nonofficial Remedies, 1930, p. 365) is also marketed in packages of five immunization treatments, in packages of fifty immunization treatments. For the two

dose method of treatment the following forms are marketed: packages of one immunization treatment; packages of five immunization treatments; packages of ten immunization treatments; consisting of one vial; packages of fifteen immunization treatments, consisting of one vial; packages of fifteen immunization treatments, consisting of thirty vials, in packages of fifty immunization treatments, consisting of one hundred vials. The National Drug Co., Philadelphia.

Pollen Allergen Solutions—Squibb.—The following pollen allergen solutions—Squibb (New and Nonofficial Remedies, 1930, p. 27) are marketed in treatment set packages of three 3 c.c. vials: Ragweed Combined Pollen Allergen Solution—Squibb; Timothy Pollen Allergen Solution—Squibb. E. R. Squibb & Sons, New York. (Jour. A. M. A., December 20, 1930, p. 1913)

PROPAGANDA FOR REFORM

Roentgen Diagnosis of Synovial Adhesions.—Another chemical adjunct to roentgen diagnosis seems to be available. With this new aid, altered permeability of synovial membranes can be determined and accurate pictures secured of synovial adhesions. This substance is a disodium salt of tetraiodo-orthosulphobenzoic acid. The substance is reported to be relatively nontoxic and to be well borne when injected. (Jour. A. M. A., December 6, 1930, p. 1749.)

The Prophylaxis of Cocaine and Allied Intoxicants.—A study to determine the efficiency of barbitol compounds in the detoxication of local anesthetics has been made. The minimal tolerated and minimal lethal doses of cocaine, procaine and butyn for rabbits were determined without protection and after the administration of various depressants. The depressants found effective and in the order of their efficacy were urethane (ethyl carbamate), chloral hydrate, paraldehyde, barbitol, phenobarbital, and isoamylethylbarbituric acid, the last named being the most effective. The investigators find that there are two types of intoxication into which clinical cases may be divided. One has a prolonged course and death results from primary respiratory failure; the other has a short course and death results from primary cardiac failure. The first type is reproduced experimentally by subcutaneous injection of cocaine, the second type by intravenous injection. Against this second type of intoxication the depressants are valueless. (Jour. A. M. A., December 13, 1930, p. 1839.)

Three Hundred Years of the Cinchonas In Medicine.—The exact date of the introduction of the use of cinchona bark into medicine is somewhat uncertain. Its introduction into medicine dates from about 1630; in 1630 Juan Lopez Canizares was the first to demonstrate the use of the bark of the cinchona tree in the treatment of malaria. Quinine itself was isolated more than a century ago by Caventon and Pelletier. Quinine is commonly described as a protoplasmic poison and it is alleged to produce its effects in the body because of this property; the action being strongest on undifferentiated protoplasm. The comparative safety in the use of the drug is indicated by the fact that fatalities from its use have been exceedingly few. The exelling virtues of the alkaloid in modern medicine remains in its selective toxicity to undifferentiated protoplasm, notably to the plasmodia of malaria. Quinine is part of the "standard" treatment of malaria. Osler said many years ago that the physician who at this day cannot treat malarial fever successfully with quinine should abandon the practice of medicine. (Jour. A. M. A., November 1, 1930, p. 1350.)

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FEBRUARY

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Editorial

Cancer of the Prostate.

The *Annals of Surgery* for January contains a monumental tribute to Dr. James Ewing in the form of some fifty odd contributions to the study of cancer. Among many notable articles, there is one by Barringer on carcinoma of the prostate. "the most baffling of urological conditions." His thoughtful observations deserve a wide audience. None is more important than his reiteration of an old story, namely, that the rarity of early diagnosis is the chief obstacle to a more rapid betterment of end-results.

The chance for a higher percentage of early diagnoses rests fundamentally with the family physician. But the average physician does not see many of these cases, nor does he have the opportunity to study them intensively in the wards, operating room, and at autopsy. The moment may be used, therefore, with appropriateness, and possibly with advantage, to summarize the important pathological and clinical features of this dread disease.

Carcinoma of the prostate is the most frequent form of malignancy in the genito-urinary tract. Young¹ estimates that four men of every hundred living to sixty will develop prostatic cancer. Compilations from many centers uniformly reveal that 15 to 20 per cent of all patients with prostatic obstruction have cancer, alone or in association with benign hypertrophy.

It is doubtful if this rate of incidence is appreciated by the profession at large—certainly a minority of patients found to have prostatic

cancer at urological clinics have been referred with such diagnosis. And rarely do the cases diagnosed prior to admission have other than advanced lesions. The explanation of this is simple. First, cancer of the prostate is a stealthy and silent invader for many months. Second, rectal palpation is one of the least used examinations in medical practice.

Study of the results obtained in the treatment of prostatic carcinoma affords gloomy reading. The outlook for men so afflicted will never be bright. Yet any judicial review of the pertinent literature of the past ten years will give encouragement that better results can be secured. The fulfillment of this hope depends, above everything else, upon prompt recognition of the condition and only secondarily upon improvements in therapeutic methods.

The malignant change begins insidiously in the hypertrophied or non-hypertrophied gland, occasionally between the ages of forty and fifty, much more frequently in the later decades of life. The posterior lobe seems peculiarly prone to be the site of the primary growth but origin may occur in any part of the gland. The rate of local spread is normally slow. The whole prostate may become infiltrated no matter what the point of origin. Ultimately the capsule is penetrated with consequent invasion of adjacent tissues, even to the extent of a complete encircling of the rectum by a solid mass of carcinomatous tissue. The customary first line of extension from the posterior lobe is toward, and into, the seminal vesicles and into the loose tissue between the base of the bladder and prostate. Involvement of the urethral and bladder mucosa is, as a rule, a late phenomenon.

The prostate is rich in lymphatics draining to the retroperitoneal glands of the pelvis but not tributary to the inguinal nodes. Early involvement of the regional pelvic glands is probably very much more frequent than has been thought. Autopsy reports on patients with early prostatic cancer are not abundant. Dossot's² experience is informative. He reports five cases coming to prostatectomy with a diagnosis of benign hypertrophy but proving to have carcinoma and dying after operation. At autopsy four of the five showed involvement of the pelvic glands; the postmortem protocol of the fifth case carried no statement

¹Young, H. H., Practice of Urology, 1926.

²Dossot, Raymond, Cancer of Prostate, Jour. Urol., XXIII, p. 217.

about the glands. If the findings in this series are typical, early glandular spread is the rule rather than the exception. The probability for the late cases is obvious. It is unfortunate that the pelvic glands are inaccessible to palpation. Massive enlargement is required to permit palpation through the abdominal wall or even through the rectum.

From the pelvic nodes there may be extension by continuity to the higher lymphatic chains. In an occasional case, a signal gland above the clavicle or in the axilla is the first clue to an amazing adenopathy. Statistical tabulations record rather frequent involvement of the inguinal nodes. This must occur late and, in all likelihood, be an evidence of retrograde permeation, seen only after thorough invasion of the pelvic nodes.

A notable feature of cancer of the prostate is the high incidence of skeletal metastases. Bumpus³ states that such changes are demonstrable by X-ray in one-third of the cases. The pelvic girdle, the vertebrae and the femurs are the most frequent sites, in the order given, but not even the skull escapes. The resulting changes are usually osteoplastic, sometimes osteoclastic, both types may be seen in the same individual. These metastases now and then cause pathological fractures, more often are responsible for pain conforming to their location. On the other hand, it is surprising how extensive the dissemination to bones may be without any symptoms. Metastases occur to such structures as the liver, lung, brain, and spinal cord but much less frequently than to bone.

Many observers have directed attention to the paradox that the degree of prostatic change is no gauge of the extent of accompanying metastases, to bone or elsewhere. Widespread dissemination can be found when the growth in the prostate seems relatively insignificant. Conversely, bony metastases may be absent in the presence of a large nodular prostate which has obviously invaded adjacent structures.

The virulence of prostatic cancer and the rapidity of its spread show the same extreme variations as are true for carcinoma primary in other organs. Some index to the average course is afforded by the duration of life in untreated cases, counting from the onset of the first symptoms to death. In the series of Bumpus this period was three and one-half

years. The actual duration was, of course, longer, there being no way to know the interval between the start of malignancy and the initial resultant symptom.

The majority of patients with cancer of the prostate have an associated benign hypertrophy. Sooner or later interference with bladder drainage develops, this followed in due time by the familiar train of changes in the upper urinary tract inevitable with obstruction at the vesical neck, no matter what the type. The cancerous infiltration alone may cause obstruction. When it is solely responsible, the growth is usually far advanced in its life history. In a small but appreciable group of cases the prostate never becomes obstructive, death, if attributable to the cancer, being incident to the cachexia and other damage of widespread metastases.

The facts recounted above suggest the varying clinical histories these patients give. For the largest number, the symptoms do not differ from those of a benign hypertrophy,—increasing difficulty and frequency of micturition, retention, a final toxemia from infection and renal back-pressure. For another group the predominant complaint is pain secondary to pressure upon nerves or nerve roots. The usual reference is naturally in the distribution of the sacral plexus but will correspond to the location of such metastases. These patients, too, frequently have symptoms of urethral obstruction in greater or less degree. The first manifestations for a small but definite group are evidences of a remote dissemination, such as pathological fractures, profound anemia, signs of spinal cord pressure and other pictures according to the organ involved. It should be said in passing that hematuria is in no wise pathognomonic of prostatic cancer.

The most important and most valuable diagnostic method for carcinoma of the prostate is careful rectal examination. The average case, as met in a urological clinic, is promptly diagnosed at the first palpation. One finds a hard, nodular gland with extension toward or into the seminal vesicles. The gland feels fixed, even “frozen” or “cemented” in place, if there is much peri-prostatic infiltration. There may already be a compression narrowing of the rectal lumen. Now and again the characteristic feel is obscured by a superimposed oedema and will be fully revealed only after subsidence of der drainage. In other cases the gland is rel-

³Bumpus, H. C., *Carcinoma of Prostate, Surg. Gyn. & Obstet.*, 1921, XXXII, 31.

the latter, following a period of adequate bladderly small but presents the typical stony hardness, nodules and irregularity. But in a few cases, the prostate will maintain normal contour and feel so soft that a diagnosis will unhesitatingly be made of simple hypertrophy. All these are findings in advanced cases, one-third of whom will have demonstrable bony metastases and no doubt regional lymph gland involvement of much higher frequency.

The earlier the lesion, the more difficult is the diagnosis. In the man over fifty, any induration of the prostate, any asymmetry, any hard nodule should excite suspicion and call for the most searching examination, no matter if other evidence of prostatic disease is entirely lacking. Fortunately the posterior lobe is the portion of the prostate most accessible to palpation and it is here that the cancer seems to begin more often than elsewhere. The early cancerous change in pre-existing hypertrophy of middle or lateral lobes will rarely be recognized until after prostatectomy. There is no doubt truth in the belief that early prostatectomy for benign hypertrophy serves in some measure as a cancer preventive.

This is not the place to discuss the treatment of prostatic cancer. The statement that whatever one does for cancer of the prostate is wrong, is often quoted and has grim import. From what has already been said it is evident that the opportunities for cure are going to be rare when diagnoses are easily made. The aim then can usually be no more than prolongation of life and reduction of suffering. Most patients present multiple needs: the protection of the kidneys against back-pressure, the relief of pain and the halting or delay of the carcinomatous spread. Prostatectomy, punch procedures, permanent cystostomies, radium and X-ray,—all have their place in securing these ends. Judgment as to which of them or what combination of them is indicated for a given case must of necessity rest with the men especially trained in this work. There is often sincere disagreement among them as to what should be done; certainly standardization is far off. But a great deal of promising work is going forward, notably in the way of clarifying our understanding of the cancer process and in the refinement and use of radiotherapy. As Barringer says, we are only at the threshold of

knowledge, both as to the cause and control of prostatic cancer.

The treatment of prostatic cancer will remain basically one of limited palliation as long as the cases are seen late. When many months intervene between the first symptoms and the initial examination—in one series reviewed this period had averaged two years—nothing more is possible. The real chance for improved results hinges upon earlier diagnoses. If these are to be made, every man over fifty with obstructive symptoms or neuralgic pains in the back, pelvis or extremities must receive careful and repeated rectal examinations. Truly much education of the public will have to be done to secure this opportunity for the physician. And looking further, sight must not be lost of that utterly silent phase of prostatic cancer. Discovery then is only possible when investigation of the prostate is a routine part of every physical examination for the man in or past middle age. It will be a utopian era when any appreciable portion of the adult male population demand such overhauling annually and physicians have trained themselves to make the most of it.

In the incessant combat with cancer the family physician leads the defending forces. He not only makes first contact with the enemy but is the scout to avoid a surprise attack. His opportunities and responsibilities are enviably great. Nowhere is this more true than in cancer of the prostate.

Mental Hygiene in Virginia.

A start has been made in mental hygiene in Virginia. What has been accomplished indicates that our State is keeping pace with other communities where there have been formal efforts for a longer period, and where financial conditions have been more favorable. Though in time past, not so far remote, there were initiated and accomplished in Virginia under wise leadership, important advances in psychiatry and mental hygiene, and more extensive and improved institutional care and treatment of the mentally sick and disabled and the epileptic and the delinquent, the present regime of public welfare, supported by a forward looking medical profession and State government has put into operation a more definite mental hygiene program in keeping with ideas of the best medical and sociological thinkers and doers of this generation. The es-

tablishment of the Bureau of Mental Hygiene has been one of the Welfare Department's chief accomplishments in the past two years. The Department of Public Welfare receives material financial aid from the Commonwealth Fund for the maintenance of its mental hygiene clinic service, and the entire mental hygiene activities in the State have the influential backing of the National Committee for Mental Hygiene. The annual report of the department containing a resumé of the first full year's operation of the bureau notes certain main activities, namely, the bureau's effort to merit and obtain the support of the medical profession, the continued operation of child guidance and psychiatric clinics, the dissemination of information in and without the profession relative to mental hygiene, the promotion in every possible way of the building up of sound mental health and the prevention of mental disorders.

The central State clinic at Richmond and the mobile clinics that have been operated in three other cities of the State—Norfolk, Roanoke, and Danville—have given social, physical, psychological, and psychiatric studies and advised treatment for a total of nearly seven hundred patients referred by physicians, teachers, social agencies, and juvenile courts. Every case, other than those committed by the courts, referred to the central or any of the mobile clinics had the endorsement or recommendation of a regular physician, usually the family physician. These patients present behavior, mental, or psychiatric problems. Children needing, according to the judgment of the clinic, physical treatment, are sent either to the Medical College of Virginia Out-Clinics where they have received excellent attention by specialists or to their family physicians.

The educational features of the program have been furthered through medical, social welfare, and civic channels. Publication in the medical press of papers and news notes relative to mental hygiene have been regarded as of particular educational value. Psychological surveys, more or less complete, have been made of the children in two large orphanages and steps are now being taken to conduct similar studies in another children's institution. In each instance suggestions are made to the authorities relative to the individual's school work and personal management.

The bureau is planning also to extend the

services of its mental clinic to the boys and girls in the State Industrial Schools by making some special psychological and psychiatric studies of selected cases.

The official organization of the bureau consists of a director, who is a psychiatrist, a consulting psychiatrist, a small clinic staff, all of whom are technically trained.

It is interesting that a number of the boys and girls under eighteen are guilty of felonies. Psychiatric study of such cases is an especially important work of the clinic staff. All persons under eighteen years old charged with or guilty of any crime must be committed to the Department of Public Welfare, if commitment to any agency is found necessary. In several instances individuals charged with crime have been referred by the courts to the bureau for special study as to their mental condition. It would seem that this is an extremely useful field for mental hygiene service.

Other valuable efforts in the psychiatric field in Virginia antedated the Bureau of Mental Hygiene. Such are the Children's Memorial Clinic, a Richmond organization which has developed since its opening in 1924 into one of the outstanding child guidance clinics in the country. Its accomplishments last year with 1,510 problem children of Richmond makes it one of the city's most valued assets. It is worthy of note that this clinic is now awarding a fellowship in psychiatry.

Under the auspices of the Health Department of Lynchburg a child guidance clinic is in operation there and prospects for its future growth are promising.

Mental hygiene in dealing with the delinquent and the frank criminal is more and more receiving merited attention. Psychiatric service at the State Penitentiary rendered by a part-time psychiatrist and the mental hygiene advisory board, consisting of several psychiatrists, continues its efforts to solve behavior and mental problems of convicts. The annual report of the psychiatrist brought out some interesting observations as to insanity and crime relative to inmates of the prison.

In the situation today in Virginia one sees advanced steps being taken in psychiatry in the medical schools and the mental and neuropsychiatric hospitals and clinics. Giving the medical students a better opportunity to observe and study mental cases of every variety at the bed-side in a State hospital, and pro-

viding opportunity for mental hygiene studies at both medical schools, are accomplishments of significance. Another step forward is in psychiatric clinics operated by the State hospitals at meetings of medical societies and fostered by the Department of Clinical Education of the Medical Society of Virginia and the State Bureau of Mental Hygiene. Another sign of awakening interest in psychiatry and mental hygiene has been shown in the increasing number of papers presented before State and local medical associations and non-medical bodies such as nurses associations and publications in the VIRGINIA MEDICAL MONTHLY of items relative to mental hygiene as a means of interesting and informing the medical profession.

In carrying out a program embracing the principles and practices of mental hygiene, the important place of the public school system is so obvious that no discussion of that phase of the subject is needed. It is said that the behavior problem child and the mentally defective child is the most difficult responsibility in the field of public education. Cooperation between the physician, the parent, the teacher, the social worker, the public health officials and the school nurse are necessary to effectiveness in efforts in the mental hygiene field. While there has not yet been a general movement for mental hygiene in our public school system nor in our colleges, individual teachers and school nurses have referred problem pupils for study by the State clinic. The number of these has increased during the past year. The University of Virginia has initiated forward looking activities in mental hygiene.

From the point of view of need of prevention, training, hospitalization, community supervision, and from that of medico-legal complications, and eugenics, the feeble-minded constitute one of the most complicated problems with which the medical and social professions and the State have to deal. Mental hygiene workers are not unmindful of this fact, and of their responsibility for contributing to solutions.

The Medical Society of Virginia has again, through resolutions adopted by the House of Delegates at the 1930 session, given approval to the efforts of the State Bureau of Mental Hygiene. To give these resolutions practical application in bringing an even closer relationship between the medical profession and the

bureau, a special committee on mental hygiene was created at the meeting of the State society last October to render whatever service is practicable in promoting the efforts of the bureau, and to report to the next annual meeting of the State society the best manner in which the society can help in the mental hygiene movement in the State.

The International Congress on Mental Hygiene held in Washington within the past year, undoubtedly awakened more extended interest in the objectives of mental hygiene in this State, as it did throughout the rest of the world. The mental hygiene movement in Virginia may be expected to continue to develop a carefully planned program so long as it has the support of the medical profession and the intelligent public.

News Notes

The Tri-State Medical Association of the Carolinas and Virginia

Is to hold its thirty-third annual meeting in Richmond, Va., February 16th and 17th, under the presidency of Dr. W. B. Lyles, of Spartanburg, S. C. Dr. Beverley R. Tucker, Richmond, is chairman of the Committee of Arrangements. Headquarters will be at the Jefferson Hotel. The first session will start at 9 o'clock on the morning of the 16th and an interesting program is being arranged. Dr. Louis Hamman, Baltimore, and Dr. John R. Caulk, St. Louis, are the invited guests, and each will deliver an address and give a clinic. A number of other clinics will be held by members of the Association.

All members are urged to attend. For special information, write the secretary, Dr. J. M. Northington, Charlotte, N. C.

The American College of Physicians

Will hold its fifteenth annual Clinical Session in Baltimore, Md., March 23-27, and in Washington, D. C., March 28, 1931, under the presidency of Dr. Sidney R. Miller, of Baltimore.

The entire program of the Clinical Session is characterized by new subjects and new authors. An added feature of the Clinical Session this year is an additional day to be spent in Washington, D. C., where a special program of clinics and inspection tours has been arranged under the auspices of the Medi-

cal Departments of the U. S. Army, Navy, and Public Health Services and Georgetown University. On the General Scientific Programs there will be forty-five or fifty selected formal papers. Several symposia have been arranged.

A special program of entertainment will be given for the visiting ladies.

For further information or programs, write Mr. E. R. Loveland, Executive Secretary, 133-135 E. 36th St., Philadelphia, Pa.

University of Virginia, Department of Medicine, News.

At the meeting of the University of Virginia Medical Society on January 5th, Dr. Allen F. Voshell discussed "Perthes' Disease." Dr. John Ware gave a report on "Fractures of the Femur," and Dr. Halstead S. Hedges discussed "Arterial Changes in the Fundus of the Eye."

On January 13th, Dr. Oscar Swineford and Mr. E. K. Hawke attended the meeting of the Post-Graduate Medical Society of Southern Virginia at Hopewell. Dr. Swineford read a paper on "Pathological Physiology of Clinical Allergy" and Mr. Hawke reported on "Angioneurotic Edema."

Mr. Michael M. Davis, Director of the Health Unit of the Rosenwald Foundation of Chicago, visited the Medical School on January 16th.

Dr. J. Edwin Wood addressed the Staff of the Cleveland Clinic on January 21st, on the subject of "Hypertension."

Professor Julian Huxley, of the University of London, visited the Medical School on January 19th. He gave an address to the University audience on the subject of "Science and Human Nature."

Polyclinic Hospital Opens New Addition.

The new twelve-story addition to the New York Polyclinic Medical School and Hospital on West 50th Street, New York City, constructed during the past year at a cost of more than \$1,500,000, was formally opened December 29, 1930, following a dedication luncheon sponsored by the women's auxiliary of the institution.

The addition will provide ample ward space for teaching and also will provide additional space for clinics. Seven floors will be devoted

exclusively to clinics, while four floors are designed for private patients.

The entire tenth floor of the main building has been reconstructed into seven new operating rooms and equipped with the most modern hospital facilities. A lounge and consultation room has been provided for the medical staff.

The Polyclinic was organized in 1881 and its first building was on East 34th Street.

The new addition will increase the capacity of the hospital to about four hundred and fifty patients a day and at the same time permit clinical service to more than six hundred out-patients.

There are more than three hundred and fifty physicians and surgeons on the staff of the institution, and more than thirty thousand student doctors from all parts of the world have taken post-graduate courses in it during the fifty years of its existence.

The School announces the appointments of Dr. Frederick M. Allen as Professor of Internal Medicine (Metabolism) and Dr. Everett M. Hawks as Professor of Gynecology and Obstetrics.

Award to be Made for Essay on Study of Goiter.

The American Association for the Study of Goiter again offers an award of three hundred dollars (\$300.00) for the best essay based upon original research work on any phase of goiter presented, at their annual meeting in Kansas City, Mo., April 7, 8, and 9, 1931. It is hoped this offer will stimulate valuable research work, especially in regard to the basic cause of goiter.

Competing manuscripts must be in the hands of the Corresponding Secretary, J. R. Yung, M. D., Terre Haute, Ind., not later than April 1, 1931, to permit the award committee sufficient time to examine all data. Manuscripts arriving after this date will be held for the next year or returned at the author's request.

First award of the 1930 annual meeting held in Seattle was given Dr. William F. Rienhoff, Jr., of Johns Hopkins University, Baltimore. Drs. O. P. Kimball, of Cleveland, Ohio, E. P. and D. R. McCullagh, Cleveland, Clinic Foundation, Cleveland, Ohio, and Robert P. Ball, of the University of Louisville, received honorable mention.

Married.

Dr. Edwin Crowell Hamblen, University, Va., and Mis Agnes Morton Baptist, daughter of Dr. and Mrs. H. L. Baptist, of Ivy, Va., December 27th.

Dr. John Claiborne Palmer, of the class of 1930, University of Virginia, Department of Medicine, and now interning at Charleston, W. Va., General Hospital, and Miss Jaue Foster, The Plains, Va., January 3rd.

Dr. Frank Ivan Steele, Windsor, Va., of the class of '29, Medical College of Virginia, and later on the resident staff at Memorial Hospital, Richmond, and Miss Anna Belle Macdonald, of Florida, in Richmond, Va., December 27th.

Dr. Davis W. Ritter, of the class of '29, Medical College of Virginia, and Miss Lorraine Manger, of Reading, Pa., November 2nd. Dr. Ritter recently completed a residency at St. Joseph's Hospital, Reading, and has located in Winchester, Va., where he is associated in practice with Dr. C. R. Anderson.

Medical College of Virginia News.

The Medical College of Virginia, Richmond, is working out plans for the inauguration of the St. Philip Hospital post-graduate clinic to open on June 16, 1931, for the instruction of Negro practitioners at the St. Philip Hospital, a unit of the college maintained for Negro patients and the training of Negro nurses. This clinic will run for ten days or two weeks and will be limited to twenty students. It has been endorsed by the Department of Clinical Education of the Medical Society of Virginia, by the executive faculty of the School of Medicine of the college, and by both the State and local medical societies of the Negro profession. Financial assistance is expected from one or several of the larger foundations. It is hoped to make the post-graduate clinic an annual event, opening after the regular session of the medical school has closed.

With more than 3,000 patient visits reported for December, that month goes on record as the largest in the history of the outpatient department of the Medical College of Virginia, Richmond. The total number of visits was 3,109—431 more than those noted for the corresponding month of last year.

Mr. Junius P. Fishburn, president of the Times-World Corporation, Roanoke, Va., will deliver the address at the commencement exercises of the Medical College of Virginia, Richmond, June 2, 1931.

Dr. W. L. Harris,

Norfolk, Va., prominent specialist in diseases of children, was recently appointed Medical Director of the Schools of Norfolk, consequent upon which he retired from private practice on January 1st. His appointment has met the enthusiastic approval of his professional associates and of laymen generally.

On the evening of Tuesday, January 20th, the profession of Norfolk tendered Dr. Harris a complimentary banquet at the Norfolk County Country Club, which was attended by a majority of the physicians of Norfolk and vicinity.

Fellowships in Psychiatry.

Fellowships of \$2,000 to \$2,500 are open to physicians with previous hospital training in psychiatry, who wish to prepare themselves for extramural psychiatric work in the fields of child guidance, delinquency, dependency, education, and industry, announces the *Mental Hygiene Bulletin*. The course of training offered covers approximately one year and includes assignments for three or four month periods to various hospitals and clinics for practical instruction. Further information may be obtained from the National Committee for Mental Hygiene, 370 Seventh Avenue, New York City.

Conference on T. B. Clinics.

Dr. C. Lydon Harrell, Norfolk, chairman of the Committee on Tuberculosis Clinics of the Medical Society of Virginia, Dr. Wm. P. Gilmer, Clifton Forge, a member of this committee, and Dr. J. Allison Hodges, President of the State Society, met with officials of the State Board of Health in Richmond, January 19th. At this conference there was a discussion of tuberculosis clinics and the work of the X-ray service of the Department of Health.

New Superintendent for Piedmont Sanatorium.

Dr. J. Belmont Woodson, of Nelson County, member of the State Senate from Amherst and Nelson counties for some years, has been elected by the State Board of Health as superintendent of the Piedmont Sanatorium at Burkeville, Va. He will succeed Dr. W. H.

Venable, who resigned last fall. The Burkeville sanatorium is for Negro patients.

Pamphlet on Prenatal Care.

The United States Department of Labor has revised and reissued "Prenatal Care." This new pamphlet has a green cover to distinguish it from the old one. Dr. Greer Baughman, chairman of the Maternal Welfare Committee of the Medical Society of Virginia, and professor of Obstetrics at the Medical College of Virginia, states that he has made it a practice for many years to give a copy of Prenatal Care and Infant Care to each of his pregnant patients and has found that they are greatly helped by reading them.

These pamphlets can be obtained by writing to the U. S. Department of Labor, Washington, D. C., or to your congressman.

The Robeson County (N. C.) Medical Society

Held its January meeting on the 8th, at Lumberton, N. C. Interesting and instructive papers were presented by Drs. J. A. Martin and E. L. Bowman, both of Lumberton. Both are alumni of the Medical College of Virginia, Dr. Martin having graduated in 1915 and Dr. Bowman in 1914.

Dr. E. D. Davis, Jr.,

Graduate of the University of Virginia, Department of Medicine, in the class of '27, and formerly with the United States Navy, is now located at Crozet, Va., in the practice of general medicine.

Dr. Charles P. M. Sheffey,

Who has been practicing medicine in Lynchburg, Va., for the past three years, has sailed for Brussels where he will study at the government school of tropical medicine for three months before going to the Congo region, Africa, where he expects to remain as a medical missionary for five years. Dr. Sheffey's marriage to Miss Mae Joy Burch was announced in the January issue of the MONTHLY.

Dr. L. E. Cockrell,

Reedville, Va., was elected one of the trustees of the Reedville Lodge, No. 71, Knights of Pythias, at their annual meeting the middle of January.

Graduate Course in Specialties.

The Gill Memorial Eye, Ear, and Throat Hospital will hold its Fifth Annual Spring Graduate Course in Ophthalmology, Otology, Rhinology, Laryngology, Facio-Maxillary Surgery, Oral Surgery, Bronchoscopy, and Esophagoscopy, March 23-29, 1931, at Roanoke,

Va. These subjects are to be presented by men of national reputation.

For further information, address Dr. E. G. Gill, Box 871, Roanoke, Va.

First Award Under Thomas W. Salmon Memorial.

Dr. Adolf Meyer, Professor of Psychiatry of Johns Hopkins University, has been chosen to receive the first award under the recently established Thomas W. Salmon Memorial. The award carries with it an honorarium of \$2,500 and the recipient will give The Thomas W. Salmon Lectures during 1931.

Dr. Meyer is an outstanding man among the psychiatrists of the world, having been one of the organizers of the National Committee for Mental Hygiene, the agency largely responsible for the development of the mental hygiene movement in this country and the world over. He is a past president of the American Psychiatric Association and the American Neurological Association.

Dr. Benj. E. Hunt,

An alumnus of the Medical College of Virginia, class of '24, who practiced for sometime at Holden, W. Va., has entered upon a year's residency in obstetrics at Jersey City Hospital, Jersey City, N. J. Dr. Hunt recently completed a post-graduate course in gynecology and obstetrics at the Graduate School of Medicine of the University of Pennsylvania.

Dr. E. Pendleton Tompkins,

Lexington, Va., was recently elected by the Kiwanis Club of that place as the District Trustee for the year 1931.

Pendleton S. Tompkins,

A senior in the Medical School of Washington University, St. Louis, Mo., spent several days with his parents in Lexington, Va., during the holidays.

The Sight-Saving Review

Made its initial appearance in January. This is a quarterly magazine, devoted to all aspects of prevention of blindness and conservation of vision. According to Mr. Lewis H. Carris, Managing Director of the National Society for the Prevention of Blindness, "The new journal is designed to meet the needs of state and local prevention of blindness workers, educators, illuminating engineers, school physicians and nurses, safety engineers, public health administrators, industrial physicians and nurses, sight-saving class teachers and supervisors, ophthalmologists, and anyone in-

terested in the sociologic phases of saving sight."

The Sight-Saving Review will contain original articles, abstracts from current periodicals throughout the world, book reviews, and reports of the Society's activities. Mr. Carris is Editor and Miss Isobel Janowich Managing Editor, with a large Editorial Board.

Dr. Otis Marshall,

Formerly of Culpeper, Va., has located in Washington, D. C., where he has accepted a position with the American Red Cross as Field Representative, First Aid Service, Eastern Area.

Dr. Granville Eastham, formerly of Rapidan, Va., has taken over Dr. Marshall's practice in Culpeper.

Dr. W. H. Venable,

Recently in charge of Piedmont Sanatorium, Burkeville, Va., has located at 634 Oak Street, Farmville, Va.

Dr. P. S. Schenck,

For many years Health Commissioner of Norfolk, Va., is on a leave of absence due to ill health. At the close of his leave, he will retire from active work.

Dr. Frank Hancock and Mr. H. G. Parker, city bacteriologist of Norfolk, are acting in place of Dr. Schenck.

Dr. and Mrs. S. E. Weymouth,

Callao, Va., left on January the 12th for a visit to Florida where they expect to spend the remainder of the winter season.

Dr. Emily Gardner,

Formerly connected with Child Health work in Virginia, has just completed a fifteen months' service at the Babies' Hospital, New York City, and is visiting her parents at Franklin, Va., before taking up practice.

The American Board of Obstetrics and Gynecology,

Composed of nine members and examiners, elected by The American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, The American Gynecological Society, and the Section on Obstetrics, Gynecology, and Abdominal Surgery of The American Medical Association, was formally organized in Niagara Falls, September 16, 1930. The function of the Board is to grant certificates indicating proficiency and specialization in Obstetrics or Gynecology, or both, to those who comply with its requirements.

The Board does not intend in any way to

interfere with or limit the professional activities of any duly licensed physician, but it does aim toward standardized qualifications for specialists in obstetrics and gynecology. Any well qualified obstetrician and gynecologist should have no difficulty in obtaining a certificate and the Board is desirous of receiving applications from those to whom this applies.

The first examination for candidates will be held simultaneously in nineteen different cities of this country and Canada on Saturday, March 14, 1931.

Detailed information and application blanks may be secured from Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Penna.

Noted Among Bank Directors.

The following doctors are among those recently noted as bank directors in Virginia: Dr. J. M. Shackelford, Martinsville; Dr. E. S. Carr, Narrows; Drs. R. F. Thornhill and R. H. Woolling, Pulaski; Drs. E. Y. Willis and Granville Eastham, Culpeper; Dr. J. Welton Smith, Farmville; Drs. T. P. West, J. A. Rucker, and E. L. Johnson, Bedford; Dr. W. O. McCabe, Thaxton; Dr. Wylie C. Mason, Gordonsville; Drs. W. E. Croxton and M. H. Harris, West Point; Dr. W. S. Cox, Shackelfords; Dr. U. H. Johnson, Barhamsville, and Dr. Lewis Holladay, Orange.

Dr. A. G. Martin,

Of the Medical College of Virginia, class of '25, who is associated with Dr. W. C. Bowers, at 17 East 61st Street, New York City, in the practice of ear, nose, and throat, has recently been appointed as Assistant Surgeon, E. N. T. Service, Bellevue Hospital, and also Assistant in Otology in the O. P. D., St. Luke's Hospital, that city.

The Annual Congress on Medical Education, Medical Licensure and Hospitals,

Held under the auspices of the American Medical Association, is to be in Chicago, February 16th, 17th, and 18th, with headquarters at the Palmer House. On Monday evening, the 16th, a dinner will be held with the Council on Medical Education and Hospitals and the Central Council for Nursing Education as hosts. Dr. Ray Lyman Wilbur, chairman of the former, will act as toastmaster, and Dr. Henry A. Christian of the Harvard University Medical School, will be the speaker. Those attending the conference and their ladies are invited.

On the following evening will be held the annual dinner of the Federation of State Medical Boards.

Many subjects of interest will be discussed at the Congress.

Dr. Richard H. Meade,

Who for the past three years has been Assistant Professor of Surgery and Gynecology at the University of Virginia, left on January 1st to become an Associate Surgeon of the Episcopal Hospital, Philadelphia. He is located at 133 South 36th Street, that city.

Dr. Gladys Smithwick,

An alumnus of the Medical College of Virginia, class of '25, who has been in medical missionary work in China for the past year, has been transferred from Language School, Peking, to Suchowfu, Kiangsu, China, which is to be her permanent residence.

Dr. J. Allison Hodges,

President of the Medical Society of Virginia, was the guest of the State Board of Health at the annual meeting of State Public Health Nurses in Richmond, January 6th. He gave a talk on "The Medical Practitioner's Interest in Public Health."

Examination for Entrance Into the Regular Corps of the United States Public Health Service.

Examination of candidates for commission as Assistant Surgeon in the Regular Corps of the U. S. Public Health Service will be held at Washington, D. C., on March 9, 1931.

Candidates must be between twenty-three and thirty-two, and not over thirty-two years of age. They must have been graduated in medicine at a reputable medical college, and have had one year's hospital experience or two years' professional practice. They must satisfactorily pass oral, written, and clinical tests before a board of medical officers, and undergo a thorough physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Request for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

Age of Parents Important.

Approximately one first-born child in ten loses his mother before the age of seventeen years, according to a recent issue of the *Statistical Bulletin of the Metropolitan Life Insurance Company*. The probability of his losing

his father before that age is slightly higher. A larger proportion of the children after the first-born is likely to lose a parent before the age of seventeen, since the proportion increases with the increasing age of the parent.

For Sale—

Account death of owner, thirty-five bed hospital, excellent equipment and location. Splendid practice and patronage. Heart of city of 75,000 population. Write for details, to W. L. Burks, 527 Mountain Avenue, S. W., Roanoke, Va. (*Adv.*)

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Obituary Record

Dr. Walter L. Devany,

A prominent and highly respected physician of Dendron, Va., died January 6, 1931, after a long and painful illness. He was born in Southampton County, Virginia, October 15, 1858. Dr. Devany graduated from the Medical College of Virginia in 1883, and soon thereafter located in Wakefield, Va. He had a large practice in Wakefield and the surrounding territory, including the town of Dendron, about seven miles distant from Wakefield. In August, 1900, he moved to Dendron, where he practiced up to a few weeks before the time of his death.

Dr. Devany was a member of the Medical Society of Virginia from the year of his graduation, and was, at one time, a Vice-President of this Society. He was also a member of the Post-Graduate Medical Society of Southern Virginia, Seaboard Medical Association and the Southside Virginia Medical Association.

Dr. Devany was always loyal to his Alma Mater, and was an ex-President of the Alumni Association of the Medical College of Virginia. He was a true representative of the old

family physician, who devoted his life to the alleviation of the suffering of humanity.

He is survived by his wife, three daughters, two sons, three sisters and two brothers.

w. w. s.

Dr. Hugh T. Nelson,

Charlottesville, Va., died suddenly on January 16th, aged fifty-four years. He was a son of the late Dr. H. T. Nelson, and received his academic and medical education at the University of Virginia, from which he received his professional degree in 1899. He also graduated from the U. S. Naval School and, after two years of hospital work in New York, served as a surgeon in the U. S. Navy. Resigning from the navy in 1906, he located at his old home in Charlottesville, and identified himself with the medical interests of this State. He joined the Medical Society of Virginia that year. Dr. Nelson was an instructor in medicine at the University of Virginia, and a veteran of the World War, having served in the Medical Corps with the rank of major. He was in active service in France during the Meuse-Argonne offensive. His wife, two sons and a sister survive him.

Dr. Daniel Tatum Merritt,

Nathalie, Va., died suddenly on January 19th, death being due to heart disease. Although he was in the hospital recently for heart trouble, his death was unexpected. Dr. Merritt was born in South Boston, Va., July 6, 1869. Upon completing his academic education at Hampden-Sidney College, he entered the former University College of Medicine, Richmond, from which he received his medical diploma in 1896. He had been a member of the Medical Society of Virginia for more than thirty years. In addition to his professional work, Dr. Merritt was interested in civic affairs and was a member of the Halifax County School Board. He was also a Mason. His wife survives him.

Dr. James W. Kelly,

Prominent physician of Big Stone Gap, Va., died of pneumonia at the Norton Hospital, December 11th. He was born in Tazewell County, Virginia, about seventy years ago. Upon completion of his academic education, he entered the University of Maryland, from which he graduated in medicine in 1887. He had been a member of the Medical Society of Virginia since 1896. His wife and a large family connection survive him.

Dr. William Edward Price,

Meredithville, Va., died suddenly, January 22nd, it is believed, as a result of an apoplectic stroke. He was found dead in his car which ran over an embankment, shortly after leaving home to answer a professional call. Dr. Price was prominent in the social and political life of the county and was a prominent physician in Southside Virginia. He was born in Brunswick County in 1860 and graduated from the University of Virginia, Department of Medicine, in 1882. Dr. Price was a member of the Medical Society of Virginia. His wife and a sister survive him.

Dr. John H. Young,

Burkeville, Va., died December 22, 1930. He was seventy-two years of age and a native of Dinwiddie County, Virginia. Dr. Young graduated from the Southern Medical College, Atlanta, Ga., in 1882. He had been a member of the Medical Society of Virginia for forty years. Dr. Young is survived by his wife and one son.

Dr. Henry Louis Gunn,

Halifax, Va., died in a South Boston hospital, January 4th, death being due to pneumonia. He was born in 1870 and graduated from the Medical College of Virginia in 1899. He is survived by his wife and four children.

Dr. John William Humphries,

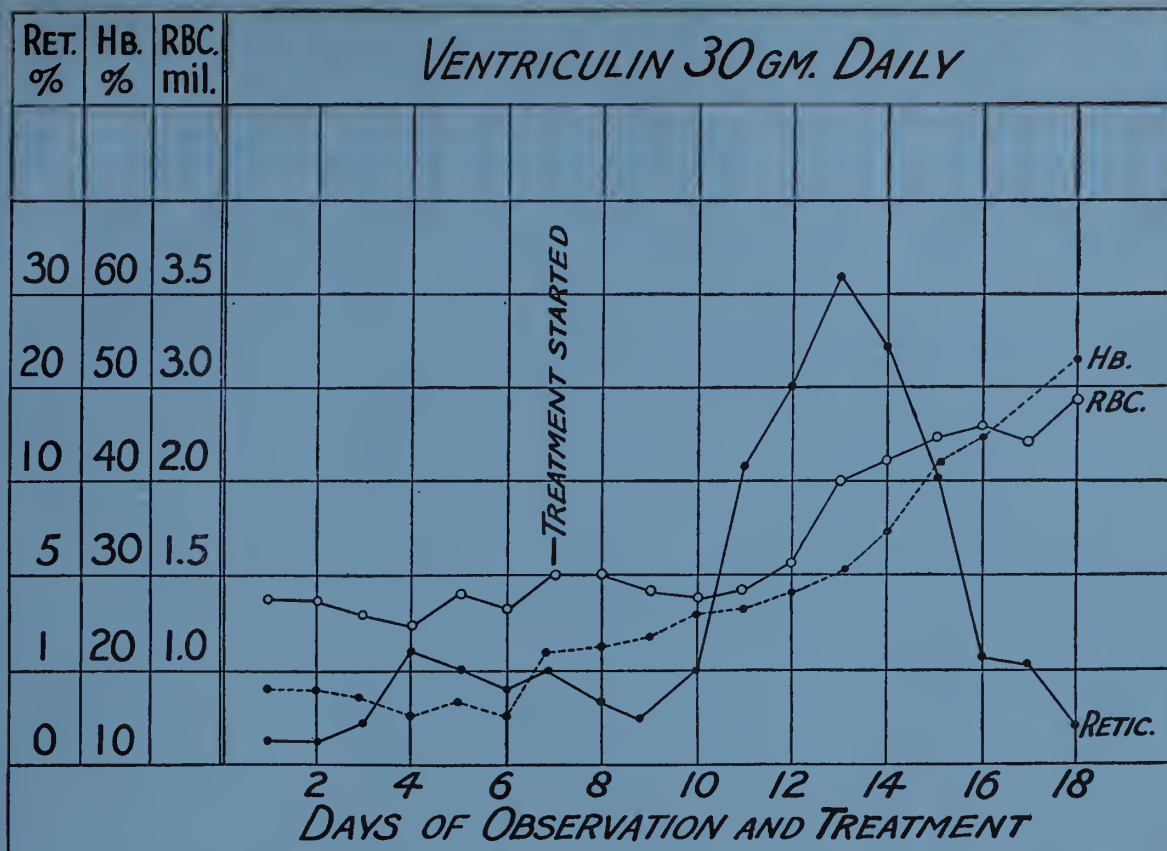
Well-known physician of Northern Virginia, died suddenly at his home in Culpeper, Va., January 14th, death being due to heart trouble. He was fifty-one years of age and a graduate of the George Washington University Medical School, Washington, D. C., in 1906. Dr. Humphries was a Mason. He had been a member of the Medical Society of Virginia for twenty-two years. He is survived by his wife and three sons.

Dr. William Ernest Evans,

Rowland, N. C., died December 11, 1930, from injuries received when the automobile in which he was driving was struck by a train. He was sixty-one years of age and a graduate of the Medical College of Virginia in 1894.

Dr. Charles P. Bolles,

Wilmington, N. C., was accidentally asphyxiated on November 28, 1930. He was fifty-six years of age and a graduate of the University of Virginia, Department of Medicine in the class of '97.



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Virginia Medical Monthly

OFFICIAL ORGAN OF THE MEDICAL SOCIETY OF VIRGINIA

Vol. 57, No. 12.
WHOLE No. 945.

RICHMOND, VA., MARCH, 1931

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Showing diathermy used for producing therapeutic fever in the treatment of dementia paralytica. Photo courtesy Northwestern University Medical School, Neurological Clinic, Chicago.

Virginia Medical Monthly

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Vol. 57, No. 12.
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RICHMOND, VA., MARCH, 1931

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THE TREATMENT OF CARCINOMA OF THE CERVIX.*

By WM. NEILL, JR., M. D., M. A., F. A. C. S., Baltimore, Md.

Cancer of the uterine cervix, as elsewhere, is extremely refractory to all therapy. However, with the advent of radium some two decades ago the interest in this disease has been greatly enhanced and the cure rate increased in the early cases, as well as definite and prolonged palliation secured in the more advanced, in a manner incomparable with any former treatment. Whether or not cancer actually is on the increase I cannot assert from my personal experience, but the statistical reports from Life Insurance Companies and the Boards of Health as to the causes of death unquestionably reveal a marked increase in its incidence; eight years ago it stood eighth as the cause of death, while today it has climbed up to second in rank. This doubtless, in part at least, is due to the intensive educational campaign of the American Society for the Control of Cancer and the concomitant education of our physicians themselves, whose diagnostic wits have been greatly sharpened, but that certainly does not explain it all. We know it is not hereditary, nor contagious nor infectious.

The essential factor for the public as well as for the physician to recognize is that a cancer, wherever it arises in the body, is primarily a local disease, curable if properly treated in this stage. The cause of cervical cancer, as of cancer in general, as yet is utterly unknown, though we believe not unknowable. The importance of surgical prophylaxis in the treatment of tears, ulcers and infections undoubtedly will reduce the incidence of this disease. We must not forget that it occurs, though but rarely, in women who never have been pregnant. It is well known to be common in the Negro race, while among the Jews, who likewise bear many children, it is rare.

Watery and bloody vaginal discharges,

about or after the menopause, are associated with the notion of malignancy, not only in the minds of many doctors but of most women. In spite of this, as well as the knowledge that the one hopeful time to treat cancer is in its very incipency, it is nevertheless true that a distressingly large proportion of these patients first applies for aid in the advanced stage of the disease. Large clinics report far less than 50 per cent as operable when first seen; at our own clinic, where all work is referred, this percentage is even smaller.

A most important factor relating itself to the treatment is an accurate history and a careful examination and complete study of each case. Pain in the pelvis, back or legs, associated with a bloody vaginal discharge, not only suggests a cancer but an advanced stage. Disturbance of either rectal or bladder function is as a rule a bad omen. Any complicating disease should be noted and its relation to the proposed treatment carefully considered. Attention ought always to be given to the blood; a Wassermann should be made, for, while we do not know that syphilis is a factor in the cause of cancer, it is often an associated condition. Especial attention should be paid to the function of the kidneys. As a rule extension of the growth does not advance above the pelvic brim, remaining local and spreading by continuity with a resulting constriction of the ureters, interfering with their drainage. The cause of death usually is due not so much to the cachexia with absorption from the growth as to the complicating uremia and pyonephrosis.

If, after palpating through the abdomen and discovering no mass of any kind, we introduce the finger into the vagina for an examination of its walls, the cervix and the pelvic structures, we are apt to discover at once any obviously bleeding, indurated or friable cervix, which declares itself in no uncertain tones to be an indubitable cancer. Let me insist also on the importance of a bimanual

*Read by invitation before the South Piedmont Medical Society, at Danville, Va., November 25, 1930.

recto-abdominal investigation as the avenue by which we can best determine the exact condition of the lateral structures from uterus out to pelvic walls. In advanced disease a cystoscopic or proctoscopic examination may be indicated to complete the protocol. In each and every instance a clipping should be secured for the microscope. Anesthesia is not necessary to this end; I cannot conceive of any valid basis for the belief that this act can in any way disseminate the disease. There is a variety of other conditions of the cervix easily and often mistaken for cancer; such are erosions, tuberculosis, granuloma, lues or even sarcoma. A necrotic cervical or uterine polyp is occasionally mistaken for cancer; I have seen a number of such among my referred cases where the microscopic picture clarified the situation and turned gloom into joy.

Carcinoma of the cervix presents itself in three types: (1) Basal cell, originating in the columnar epithelium of the cervical canal; (2) epidermoid or squamous cell, springing from the modified skin of the portio vaginalis; this is further divided into the spinal, spindle and transitional cell cancer; (3) adenocarcinoma, arising primarily in the uterine glands and involving the cervix by downward extension.

From a prognostic standpoint based on a histological grading I am not altogether in accord with Dr. A. C. Broders or Dr. W. P. Healey at the Memorial Hospital in New York, for we often have seen extensive metastases in Grade 1, while some of Grade 4 have long continued to remain local. This is also observable in carcinomata of the uterine body and in bladder tumors.

Prior to treatment the cases may be classified as: (1) Early, when the growth is localized entirely in or on the cervix; (2) borderline, when the growth involves the adjacent vaginal wall or the parametrium but is still freely movable on bimanual palpation; (3) advanced or totally inoperable extensive cervical growth and fixation of one or both parametria.

An arbitrary period of five years' freedom from cancer after surgical removal is commonly taken as indicating a permanent cure. Recurrences, however, do take place, though rarely, from the sixth year or at any time as long as life lasts. We must not, however, belittle the importance of all apparent absence of disease for four years, or even two or three.

My own position is: The surgical removal

in early cases, preeminently operable, offers a low mortality with a substantial permanent cure rate; a moderate involvement of the parametria and vaginal wall increases the surgical mortality rate considerably, with a rate of cure decidedly diminished; in the more extensive types there are no operative cures. Radium in the early cases offers a decidedly larger number of permanent cures. In the border-line group the percentage of short clinical radium cures is very high and the permanent cures are far more numerous than by the best operation ever devised. In the still more extensive cases with radium there is an encouraging percentage of immediate relief which may last for months or years, and there are even some cures. In the extreme or far advanced, while clinical or permanent cures are rarities, palliation and relief of hemorrhage and pain are to be expected. To quote percentages from the Howard A. Kelly Hospital, we have secured the following with radium: Very early cases, 50 per cent; border-line 31 per cent; in the inoperables, 9 per cent; in a hitherto hopeless group, namely, those recurrent after operation, 10 per cent.

The combination of operative removal and radium topical applications as a preliminary would seem a sound procedure in the early operables. We have not found that this increases the permanent cure rate but do know that radiation adds to the difficulties of the operating. Immediate local post-operative radiation is hardly to be recommended; indeed, it may even be dangerous, as there is the risk of a vaginal slough or even of involving a loop of some adjacent bowel, productive of a fistula. Wide portal X-ray has not increased our permanent results and I believe it is not to be used here except as a palliative for the more advanced types. Where an apparent cure follows radium therapy, a subsequent radical hysterectomy seems to be a mistake.

It is impossible to lay down precise rules for the radiation of all the various extensions of cervical cancer. A distinguished foreign visitor recently told us that he employed a fixed technique in all alike, whether early or late. Our own opinion is that each case should be studied as a separate entity, and that an immensely greater dosage is called for by the advanced cases. We now secure higher percentages of cures in the early cases than a decade

ago, and the limits of curability are being pushed forward in the more advanced, including many formerly regarded as only palliative. In a word, the technique of the treatment of cancer of the cervix is not a closed book but a vital and constantly developing, progressive field.

Beginning with the use of radium element in 1907 we now for sixteen years have employed radon (emanation) instead of the metallic salt. The radium is preserved in an especially constructed brick vault where the emanation is withdrawn each day into a small glass bulb and accurately estimated by the electroscope as to its amount and activity in millicuries as compared with milligrams of radium. This in turn is enclosed in small brass capsules 3 mm. thick which absorb the irritative alpha and beta rays, and the treatment given is entirely by gamma radiation. In making the application the brass capsule containing the emanation is placed in a rubber cot 1 mm. thick to screen out the secondary or reflected beta radiation. Applications are made with the patient in the knee-chest position which affords a beautiful exposure and enables one to make the application more accurately. As a rule three tubes are introduced in tandem into the cervical canal, filling it from internal to external os. We do not advocate intrauterine radiation in the cervical group as the disease lies below this region and there is risk of sloughing and later pyometra. In addition to this from six to eight tubes are held in a circular cloth form which is folded over the cervix and any vaginal extension; this is held in place with gauze packs previously soaked in water, distending thoroughly the vaginal cavity away from the radium, protective to a considerable extent against such sequelae as an irritative cystitis and proctitis. Three and one-half curie hours is given at a single treatment and without anesthesia. With only small amounts of radium available, a relatively longer time is required to equalize the physiological effect. Immediate symptoms often are nausea, elevation of temperature and malaise, which rarely last over three days. The patient is kept in bed either in the hospital or at home for seven to ten days and seen frequently; if she leaves our care shortly after the application, the instructions are to return in six to eight weeks, in the meantime remaining under her family

physician's care. A second treatment ought not to be given at an earlier date and only then in case there is some new development at or beyond the site of the original disease. Lateral nodules should be treated by the interstitial method. With a finger in the rectum and thumb in vagina, under gas and oxygen anesthesia, the emanation points are placed so that each cubic centimeter of disease receives $\frac{1}{2}$ millicurie. Occasionally this type of treatment has to be carried out through an abdominal incision. The patient should be warned that a six or eight weeks' convalescence period must follow the procedure, during which time she should keep quiescent. Tenesmus is considerably relieved by mild sedatives, douches, attention to the bowels and, for the first three weeks, daily application of 5 per cent mercurochrome solution to the cervix with the patient in the knee-chest position. Attention to a regimen of tonics, food, and rest, with some exercise, is important. Follow-up examinations are made at intervals of two to three months during the first year and twice a year thereafter. The primary immediate results of treatment by the above plan are excellent. Primary clinical cures in all but the advanced are almost invariable.

CONCLUSIONS

1. In the early cases still operable, a cure is possible by either radium or surgery.
2. Unfortunately this group is distressingly small in spite of the widespread publicity given the subject.
3. The results with radium alone should be as great or greater, without primary mortality.
4. The undisputed field for radium is the group just beyond the possibilities of operation, where the cure rate is 31 per cent.
5. Even in the advanced cases, where there is nothing to offer by surgery, a cure with radium of 9 per cent has been obtained and palliation invariably assured.
6. Preliminary radium treatment will increase operative difficulties and I am not sure it has any value. I am sure post-operative topical treatment is dangerous.
7. In our clinic, radium has supplanted surgery.
8. Today, radium alone offers more in the treatment of carcinoma of the cervix than any other single method at our command.

ENCEPHALOGRAPHY IN THE DIAGNOSIS OF BRAIN LESIONS.*

By J. G. LYERLY, M. D., F. A. C. S., Richmond, Va.
Department of Neurological Surgery, Medical College of Virginia.

The term encephalography means that a record is made on the roentgenogram of the ventricles and fluid spaces about the brain, after the injection of air into the spinal subarachnoid space. It is used in contradistinction to ventriculography which means that the air is put directly into the ventricles after an operative opening in the skull and a needle puncture of the brain. In the latter procedure only the ventricles are outlined, while in the former, the ventricles, basal cisternae and sulci over the brain surface may be shown.

In 1918 Dandy¹ was the first to use air by the lumbar route as well as into the ventricles for the diagnosis of intracranial lesions. Since then many German and American workers have been using the lumbar method freely. In addition, air has been used directly into the ventricles for many years by most neurological surgeons for the diagnosis and localization of brain tumors.

It is not the purpose of this paper to discuss further the method of ventriculography, but to limit the remarks to encephalography. This method is becoming more widely used in this country in certain types of cases, especially those of intracranial lesions in which a diagnosis cannot be made from the clinical examination.

By the methods of X-ray technic developed by Pancoast and Fay², and Pendergrass,³ a standard has been reached for making the roentgenograms which gives a clear outline of the spinal fluid system in the cranial cavity.

TECHNIC

In order that the best results may be obtained on X-ray examination, it is necessary that the surgeon doing the air injection use the proper technic in injecting a sufficient quantity of air to give the outline of the brain. Practically all of the cerebrospinal fluid in the cranial cavity should be replaced by air with the patient in the sitting position. The patient should previously have had a complete neurological examination, and usually a spinal puncture record of the pressure in the horizontal position. A very high intracranial pressure would make the procedure extremely

dangerous and, therefore, should not be done. With the patient in a sitting position, under local anesthesia, a lumbar puncture is made in the usual lumbar interspace, and a record of the fluid pressure is made at the start. It will be found that the normal pressure will be from 300 to 500 mm. fluid, depending somewhat upon the height of the patient, and whether or not he is inclined forward or sitting erect. Five c.c. of fluid are replaced by an equal amount of air in succession, until the required amount of air has been injected. As a rule it requires 100 c.c. or more of air to obtain good roentgenograms. Occasionally a smaller quantity of air is used, should the pressure drop rapidly or the fluid cease to run, indicating that all the fluid has been replaced by the air. Due to the fact that air expands when taken at room temperature and heated to body temperature after it is put into the spinal canal, some men recommend a less quantity of air injected than fluid removed. Other workers try to keep the pressure constant, regardless of the amount of fluid removed or air injected. I have followed the latter method, trying to keep the pressure constant, at the same time keeping a record of the fluid removed and the air injected. It is not unusual to find that when 100 c.c. or more of air has been injected, a slightly less quantity of fluid has been removed, even though the pressure is somewhat lower than at the beginning. During the injection, the position of the patient's head should be changed in various directions and gently tapped, to facilitate drainage of the fluid from the ventricles and subarachnoid spaces over the brain, and to favor the rise of air. Occasionally it will be found that no air has reached the ventricles. This may be due to some obstruction of the ventricular system, usually at the exits of the 4th ventricle or to an error of technic. It is probably more likely due to the latter.

Soon after the beginning of the air injection, the patient complains of headache, which becomes more severe as the end of the procedure is reached. This may be lessened somewhat by the previous administration of a sedative, such as morphin or luminal. It is not unusual to have vomiting about the half-way mark, and the patient may show pallor, sweating or signs of approaching collapse. By going slowly, the latter is less likely to occur. The pulse rate frequently becomes slow and the blood pres-

*Read at the sixty-first annual meeting of the Medical Society of Virginia in Norfolk, October 21-23, 1930.

sure may rise slightly. Headache is the most annoying complaint, but it becomes less when the patient is put back to bed. It gradually disappears in three or four days.

Immediately after the air injection, the patient should be taken to the X-ray room in the sitting position, and the X-rays made without delay. The air is absorbed very rapidly from the subarachnoid spaces, provided there is no obstruction of the absorptive mechanism. Unless the X-rays are made within an hour after the air injection, some of it may escape and not show on the film. Nothing further will be said of the X-ray technic except that lateral stereoscopies of each side of the head and antero-posterior views should be made on the Buckley diaphragm with the patient in a sitting position.

SCOPE AND LIMITATIONS

With the proper technic, including a sufficient quantity of air injected, and good roentgenograms, it is possible to outline the ventricles, basal cisternae and sulci on the brain surface. With the patient in the erect posture, the descending horns do not show up, but the main part of the bodies and the anterior and posterior horns of the ventricles do outline satisfactorily. The third and fourth ventricles and frequently the foramen of Monro and aqueduct of Sylvius may be seen. In the subarachnoid system can be seen, as a rule, an outline of the cisternae pontis, interpeduncularis, chiasmatis and cisternae venae magnae cerebri. Sometimes the communication between the latter and the cisternae interpeduncularis can be seen. The sulci overlying the cerebral convexity are shown principally over the parietal and frontal regions. As a rule, those of the temporal and occipital regions are not outlined except in abnormal conditions.

The abnormal conditions shown may be described under the following heads:

Internal hydrocephalus.—The etiology is due to obstruction of the drainage of one or all of the ventricles. The fluid cannot get out and dams back under pressure, causing enlargement of the affected ventricle, or the whole ventricular system. If the obstruction is at the exits of the fourth ventricle, which are the foramina of Magendie and Luschka, the whole ventricular system will be dilated. Should it be at the foramen of Monro, only

the lateral ventricle will be affected. Of course, any obstruction of the ventricular drainage would preclude the entrance of air into the ventricular system, and the absence of air in the ventricles on X-ray examination may lead to the supposition that these are blocked. On the contrary, obstructed ventricles cause high intracranial pressure, which would be a contraindication for encephalography, and a spinal air injection had best not be done. There are cases, however, in which the ventricles have been blocked, due to adhesions, inflammatory exudates, and for other reasons, and the obstruction being later removed, leave patent exits. In this case the air can enter the ventricles and the internal hydrocephalus demonstrated.

External hydrocephalus.—When there is obstruction of the fluid exits, due to a faulty absorptive mechanism located in the arachnoid villi and pacchionian bodies over the surface of the brain, along the longitudinal sinus, there will be backward pressure in the cerebral sulci and basal cisternae of the subarachnoid system, resulting in their enlargement and dilatation, with frequently an associated enlargement of the ventricular system. The prolonged fluid pressure found in this condition frequently leads to atrophy of the brain.

Atrophy.—Atrophy may vary in degrees from slight to severe. The committee on standardization of encephalography states that the diameter of a cerebral sulcus normally should not be over 3 or 4 mm., as shown on the encephalogram, and that anything over this should be called atrophy. The outline of the sulci over the occipital and temporal regions is also indicative of atrophy. It is not unusual to see solitary or numerous finger-sized fluid spaces on the cortex in this condition. In the severe cases, the surface of the brain may be separated from the overlying dura for a distance of 2 or 4 cm., as shown by the antero-posterior view of the encephalogram. This atrophy may be caused by brain injury, destruction of brain tissue associated with faulty elimination of cerebrospinal fluid, encephalitis, meningitis, cerebral vascular disease, thrombosis and certain types of epilepsy. At times this atrophy is localized to only one cerebral hemisphere. It may show itself in the ventricular walls with enlargement of the ventricle on that side, or by knuckle-like indentations, if multiple atrophies are present.

Adhesive arachnoiditis.—Frequently associated with epilepsy there is a thickening with dense adhesions of the pia-arachnoid membranes seen in chronic leptomeningitis. It is not unusual to find on air injection that no air appears over the cortex. The fluid is trapped in these subarachnoid spaces, so that it either cannot get out, or the air cannot get in, although the spaces are enlarged and the fluid abundant. It may be unilateral, in which case the patient may have Jacksonian attacks. Operation in these cases shows that, even with multiple punctures of the arachnoid, it is difficult to drain the pent-up fluid.

Brain tumor.—Many mass-restricting lesions, such as tumor, usually show definite and characteristic findings. If located in one hemisphere, the ventricle on the same side may be depressed, encroached upon, deformed, or blocked, in which case there will be no air on this side. On the antero-posterior view, the ventricular system will be displaced to the opposite side. It is not unusual to see no air in the cerebral sulci on the affected side, and to some extent on both sides, due to the ironing-out and obliteration of these spaces. Cerebellar tumors are usually not demonstrated because of the fact that a suspicion of their presence and the early high intracranial pressure which they produce should be a contraindication to spinal puncture or spinal air injection.

INDICATIONS

Encephalography can be used with a fair degree of safety in most intracranial conditions, provided there is no high degree of pressure or localizing signs pointing to the posterior fossa of the skull. It should be limited to those cases in which the diagnosis is not certain and cannot be determined from the clinical examination. It usually shows gross changes and degenerations of the brain, so that a more definite diagnosis and prognosis may be given. In most cases of epilepsy, or in patients with convulsions, especially when the onset is in adult life, encephalography should be used to determine the cause if possible. It is known that tumors are frequently associated with a convulsive state not unlike epilepsy and that 50 per cent of frontal lobe tumors cause convulsions. Early diagnosis and operation before the increase of general intracranial pressure with its train of symptoms may mean much to the patient. Enceph-

alography may be used to reach a more accurate diagnosis in that broad class of cases we regard as brain tumor suspects. This will include certain cases of hemiplegia, aphasia and other focal symptoms of brain pathology such as convulsions, personality changes and probably some cases of mental degeneration, persistent headache, vomiting, dizziness and impaired vision of obscure origin. It may also be used after brain injury and fractures of the skull where symptoms have persisted and there are signs of intracranial pressure from a cyst or clot. It may help to differentiate the post-traumatic neurosis cases from the true brain injuries. Encephalography is sometimes used in infants and children when there is mental retardation or convulsions, to determine the type of lesion present.

CONTRAINDICATIONS

Whenever it is dangerous to do a spinal puncture, it is even more serious to employ encephalography. It should not be done in the presence of choked disc or signs of a tumor in the posterior fossa because of danger of herniation of the medulla and its surrounding structures into the foramen magnum. A careful examination of the eye grounds and a neurological examination should always be made beforehand. It is safer to do a ventriculography when there is high intracranial pressure or choked disc. Withdrawal of fluid directly from the ventricles lessens the tendency toward foraminal herniation. After the ventricles have been tapped and the pressure above the foramen magnum has been relieved, a spinal air injection may be done with a fair degree of safety in certain selected cases. When one does an air injection, either by the lumbar or ventricular route, in the presence of a brain tumor, the rise of intracranial pressure following it may make an emergency operation necessary. Frequently it is necessary to do ventricular punctures afterward, to tide the patient over an emergency. The cases which gave us the most alarm after encephalography were the ones with brain tumors, but by means of ventricular punctures or early operation, there has been no mortality. We have on record ninety-five cases in which encephalography was used, and there has not been a death.

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Professional Building.

FRACTURES OF THE PELVIS.*

By M. H. TODD, M. D., F. A. C. S., Norfolk, Va.

The cases discussed in this paper were treated in a mining region of some twelve thousand population, with a centralized surgical service. Of a series of a thousand fractures under my own care, there were forty-seven of the pelvis. There were three deaths.

ETIOLOGY AND SYMPTOMS

The fracture was produced by direct violence, usually a fall of slate, or by the patient being caught between car-bumpers, or rolled sidewise between a mining-motor and the top of the hallway, or run over by an automobile. This latter was the usual mode of injury in children, in whom four of these fractures occurred. A fall from a height produced the fracture twice in the series.

The pubic or ischial rami were usually involved; that is, the anterior part of the ring of bone around the obturator foramen. The symphysis was occasionally separated; three or four times there was also a fracture of the sacrum, vertically, with upward displacement of half of the pelvis, carrying with it the whole limb. Twice there was dislocation of the hip.

The symptoms consisted of disability or pain in the hip region on walking or attempting to walk, pain in the groin upon squeezing the iliac crests inward, and local tenderness in the groin.

Diagnosis was made by the X-ray. No attempt was made to elicit crepitus or false motion, for fear of causing visceral injury or making it worse.

The symptoms varied a good deal; some of the patients walked about quite well, with so little complaint that, in the presence of other

contusions and abrasions, the diagnosis was for a time overlooked. More than once, the first X-ray did not show the fracture, and had to be repeated after a few days, perhaps with the film against the pubis instead of behind the sacrum; and at least once the fracture was only definitely diagnosed after the appearance of callus.

It is reasonable to suppose that, in the past, the injury has often been overlooked, for the symptoms are often mild, and many of the patients will not believe they are hurt to speak of, even after they are told the bone is broken. Further, the Buckey diaphragm has only been generally available during the past ten years or so, and without this machine, it would be impossible to diagnose some of these fractures.

TREATMENT AND PROGNOSIS

Treatment was relatively simple; it consisted of keeping the patient in bed for about a month, and steadying the pelvis, usually with a light plaster cast. Generally a Bradford frame was used for a few days before the cast was put on, with strapping or a binder about the pelvis. The only really difficult part of the treatment was to keep the patient in bed. He would nearly always insist that he was not hurt, and would sit up unless rigidly watched. Some could not be kept from walking about after ten days or two weeks time. The cast reminded him perhaps that he really had a fracture, but, even so, he paid little attention to it.

The results were, for the most part, a complete restoration to the normal, with not the slightest disability for any kind of work. However, seven cases of the forty-seven did have some disability, and returned to only moderate work.

TYPES OF FRACTURE

I illustrate in the first slide,¹ the usual type of fracture of the pelvis; you see that the obturator ring is broken in two places, but there is little displacement. Obviously, the only treatment necessary is simple immobilization for a while until bony healing has taken place. The next slide² shows a similar case; and, in fact, nearly all the fractures in this series have been similar.

Gunshot fracture, illustrated next,³ gives rise to no displacement; but the associated visceral injury is apt to be severe. This patient, whose

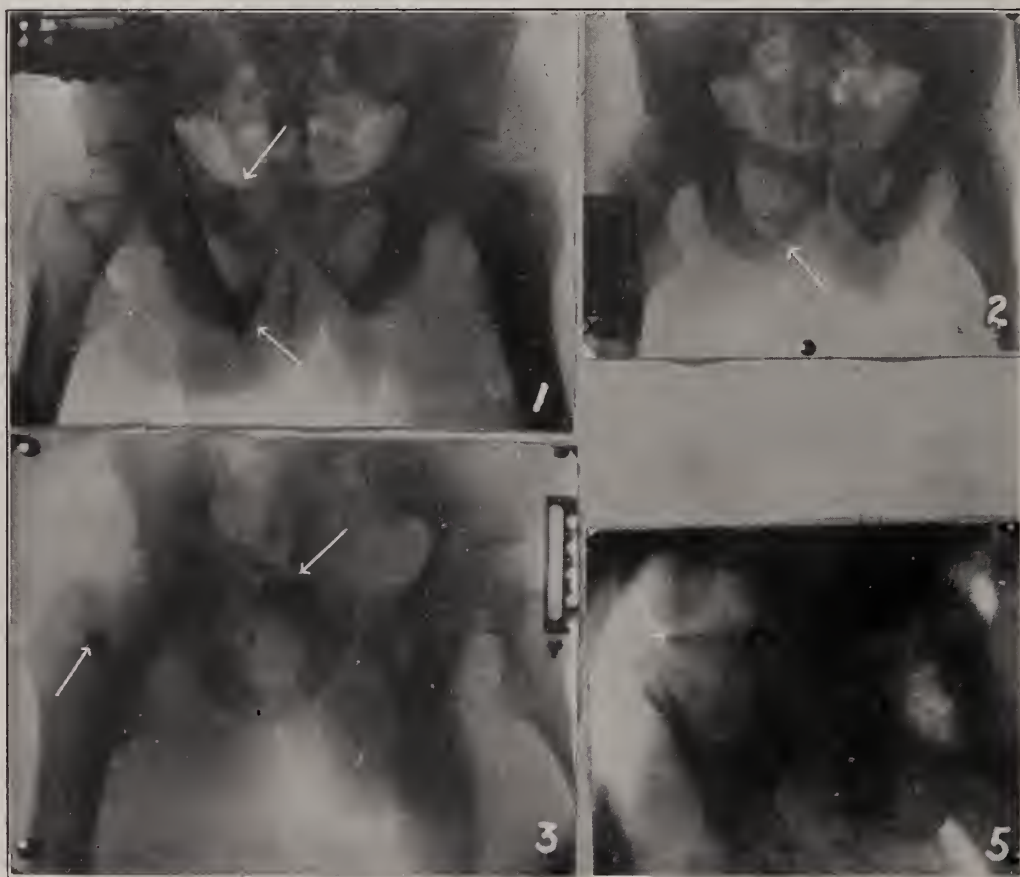
*Read before the Southside Virginia Medical Association, at Petersburg, Va., December 9, 1930.

X-ray I borrowed to illustrate this sort of fracture, died, and I am told that he apparently died of internal hemorrhage.

The next slide⁴ shows fracture of the pubis in a child. It is necessary to recall accurately the position of the epiphyseal lines in making the diagnosis. The prognosis in children is

shown in the next slide.⁷ The patient was working again within four months; and, in the end, had no disability whatever.

The next slides illustrate a similar case,⁸ with rather worse dislocation; here, after reduction, I used skeletal traction, with tongs at the knee, for the sake of security; here,



perfectly good, unless there is visceral injury. There is absolutely no residual disability.

For the sake of completeness, I show next⁵ a fracture of the wing of the ilium, not a specially common type. The treatment is simply strapping, not too tight for fear of producing or increasing deformity, and the prognosis is perfectly good.

I illustrate, next, two or three complicated cases. The first case⁶ was complicated by a dislocated hip; reduction was made, as in any hip dislocation, by complete relaxation under ether, and simple manual traction and rocking to and fro, after the method of Allis. There was some gross crepitus during this procedure. X-ray taken afterwards showed correct reduc-

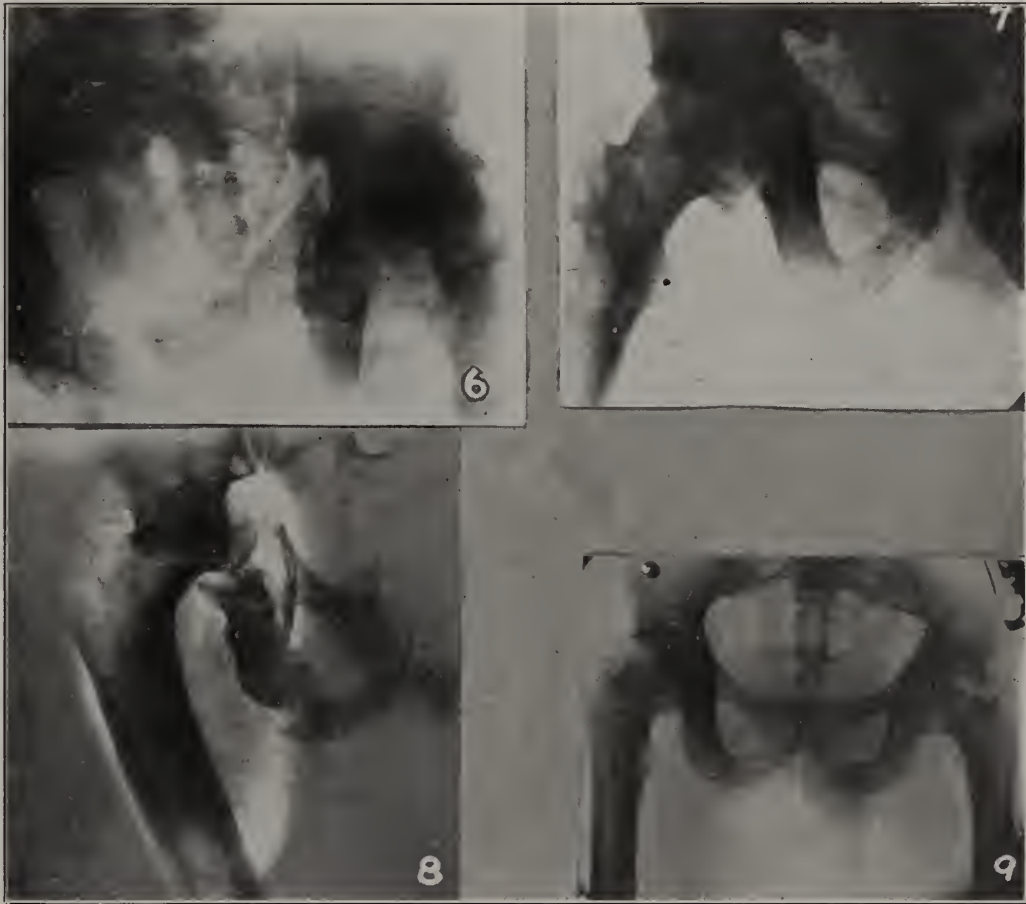
again, the end-result⁹ was perfect, not the slightest disability remaining, and all movements of the hip being restored to normal.

Occasionally the symphysis was separated, as shown in the next slide,¹⁰ and here there was also a fracture through the sacrum vertically, so that the whole limb, attached to its last half of the pelvic girdle, was displaced grossly upward. I am sorry that the sacrum does not show clearly in the slide. Nearly correct position was attained after a few days traction on the leg, with the Bradford frame raised to give hammock suspension; this is here shown.¹¹ Later, a kind-hearted orderly relieved the patient of some discomfort by letting him down again in bed; and by the time I noticed this

fact, some days later, the symphysis had gaped open again, and the deformity had recurred,¹² and could not be again corrected. The end-result,¹³ here shown, was solid union with some upward displacement. The man has gone back to moderate work, and will no doubt return to full duty; but he has a little limp, which he should not have, and I think some actual disability, which would likely not have been

You can see that good position has been maintained. The case is recent, but I think there is no question that complete recovery will occur, with no residual disability at all.

These fractures are set by tissue fixation rather quickly; so that if open reduction is for any reason to be done (and it is rarely indicated), it should, I think, be done rather early to avoid difficult reduction.



the case if proper treatment had been allowed to continue. I was very much chagrined, for the injury was primarily severe, and I had thought to have a perfect result.

In a similar case in a boy, pretty good reduction was finally attained by several days rather heavy traction in suspension, after manipulation under ether had failed.

In a third case,¹⁴ here shown, after very careful study of stereoscopic films, open reduction was done and almost normal reduction attained. The next slide¹⁵ shows the result just after operation, and the next,¹⁶ a later X-ray.

COMPLICATIONS

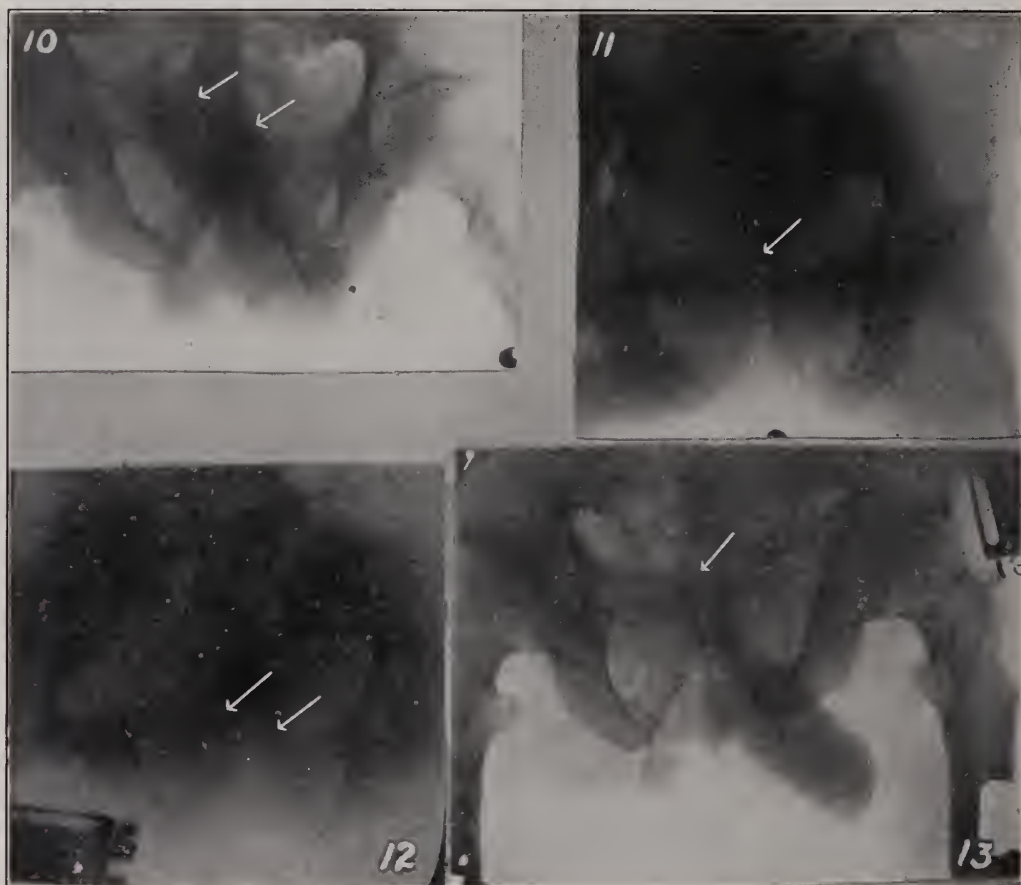
Rupture of the urethra is a rightly dreaded complication; there were four in this series, all of them treated by combined cystotomy and urethrotomy. Two recovered, two died. Traumatic stricture did not occur in the two recovered cases during the months that I followed them.

Partial rupture of the urethra apparently occurred several times, with blood passing per urethram, or perineal ecchymosis. The patients were watched carefully, but not otherwise disturbed. In one case, who could not

void, a catheter could not be passed, and I was considerably worried about the man, for the reason that he also had a broken femur, and marked diabetes. He finally voided spontaneously, and this was by way of a triumph for some of his brethren of the Holiness Faith who had assured me that I would not have to operate. I am only sorry that their other assertion, that he would be walking down the

This was one of the cases, by the way, with dislocation of the hip, who made a complete recovery.

At present, the diagnosis of rupture of the bowel would be helped by looking for spontaneous pneumoperitoneum by X-ray. This is a very reliable sign of the condition, though its absence by no means rules out other visceral injury requiring surgery. This complication,



street immediately, could not come to pass. I am very glad to say that he recovered absolutely perfectly, and that he now has no resulting disability from either his femur, his pelvis, or his diabetes.

I may say that there is often some uncertainty about the presence of intra-abdominal injury; the white count does not help much, for a marked rise occurs with simple fractures, to as much as 30,000. One patient presented hiccough and obliteration of liver dulness, and had tenderness over the whole abdomen, which he held rather stiffly for two days, though discomfort was partly relieved by catheterization.

though feared more than once, did not occur in this series. One child passed some blood per rectum, but had no other sign of injury, and recovered, as usual, very rapidly. One other patient had traumatic asphyxia, with bulging eye-balls, but he also made a rapid recovery.

TECHNIQUE

It is perhaps worthwhile to say that the pelvic cast should fit well. If it is put on, as it sometimes is, on the Hawley table, the buttocks will sag below the level of the sacral support. When the cast has hardened, and the patient

put back to bed, it will be found that the cast has risen anteriorly away from the iliac spines, because of the return of the buttocks to their normal relations as the patient is recumbent. For this reason, we have found it expedient to put the cast on in the patient's bed, with the help of a couple of orderlies; and as soon as the plaster has been rapidly applied, the patient is lowered back into bed, with a pillow

region, as, for instance, when a patient has been run over by an automobile.

The diagnosis should be made by a careful X-ray; and it is worth mentioning that the Bucky diaphragm should always be used, though I doubt that any X-ray man nowadays would take the film without it. Local tenderness and pain on pressure over the ilia are usually present; crepitus and false motion



transversely under the small of the back; and the front of the cast is then held up anteriorly, away from the abdomen, and the sides of the cast moulded to the iliac crests. It is well to have a band of plaster around each groin to keep the cast from riding up.

Nerve injury we have not met with, except in one case where impotence occurred. Drop-foot is described, but we have not seen it.

SUMMARY

In summary: fracture of the pelvis is not rare, and should always be looked for when there has been any squeezing injury in this

should not be elicited for fear of visceral injury.

Treatment is simple in the majority of these fractures, consisting of rest in bed, usually on a frame for ease in using the bedpan and bathing; and by strapping or binding the pelvic region, or using sling suspension, or a light cast.

Union takes place in normal time, and the patients can do light work within five months. Complete recovery is the rule.

Of complications, rupture of the urethra occasionally occurs, and demands immediate

operation if complete and impassable. Marked displacement of the fracture may be treated usually by closed methods; very occasionally open reduction may be wise.

You will note that I am able to speak positively of end-results. This is because this series of injuries occurred in the mines, subject to the Workmens' Compensation Law, and our records of necessity were very detailed, and our follow-up complete, for our own legal protection as well as mere academic completeness of routine.

Three of these patients died; seven returned to moderate work; and thirty-seven returned to full duty as before injury.

712 Botetourt Street.

THE SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS.*

By I. A. BIGGER, M. D., Richmond, Va.

Rest is a fundamental principle in the treatment of tuberculosis of the lungs as well as of other organs. Complete rest is impossible when both lungs are involved; but when the disease is limited largely to one lung, more or less complete rest of the involved lung can be obtained by some form of collapse. Numerous methods of collapse have been described, but only four have proven satisfactory. They are, in the order of their importance, pneumothorax, thoracoplasty, internal pneumolysis, and phrenicotomy.

PNEUMOTHORAX. Pneumothorax, because it is the simplest and safest procedure, is the most important method of collapse. It should be attempted first where collapse is desired. The indications for and methods of production of pneumothorax are well known. The success of the treatment depends mainly upon two factors, the amount of involvement in the better lung and the degree of collapse obtained. Even in the presence of a moderate amount of activity in the opposite lung the results are frequently good when the more diseased lung is collapsed. The degree of collapse depends upon the number and density of the adhesions, which are usually more numerous and more dense overlying the most diseased areas.

If the adhesions are neither too short nor too dense, they may be divided and the lung

satisfactorily collapsed. Two methods have been described by which intrapleural adhesions may be satisfactorily divided, open thoracotomy and the closed method or cautery division under thoracoscopic control. The latter, the method of choice, should be used only when they are sufficiently long to permit satisfactory visualization through the thoracoscope. Heavy or very vascular adhesions should not be divided in this way as hemorrhage may result. If they are so short or dense that division seems inadvisable, thoracoplasty should be considered.

THORACOPLASTY. Thoracoplasty should not be performed until pneumothorax has been tried and has failed. The indications are essentially the same as for pneumothorax but the contra-indications must be more strictly observed, for it must be kept in mind that a more radical procedure is being considered. The condition of the opposite lung is of much greater importance, because when the lung is once collapsed by resection of the ribs it cannot be expanded; whereas, if there is an extension of the disease in the better lung during pneumothorax, the lung may be allowed to expand. Thoracoplasty is a shocking procedure and the collapse is rapid, so there is a greater chance of a flare-up in the opposite lung. Extensive tuberculosis of the larynx or of the intestines should be considered a contra-indication, but early tuberculosis of the larynx is usually greatly improved by collapse of the diseased lung and may, therefore, be considered an added indication for collapse.

Thoracoplasty may be performed in one or more stages, depending on the extent of the lesion and upon the patient's general condition. If all the ribs on one side are to be resected, it should be divided into at least two stages. When the diaphragm has been paralyzed, it is usually not necessary to resect more than eight or nine ribs even when the entire lung is diseased. When the disease is limited to the apex of the lung it may be necessary to resect only four or five ribs, but complete collapse of the diseased portion of the lung can be obtained only by resection of sufficient lengths of the posterior segments. When the operation is divided into stages, either the upper or lower resection may be done first. Some surgeons resect the lower ribs first because they believe that there is less danger of post-

*From the Department of Surgery, Medical College of Virginia.
Read before the Southside Virginia Medical Association, December 9, 1930.

operative lower lobe pneumonia. We follow the procedure recommended by Alexander¹, namely, preliminary paralysis of the diaphragm, followed by resection of the upper ribs. The lower portion of the chest wall is extremely important in the evacuation of

unilateral disease. Phrenicotomy should be used as a preliminary to thoracoplasty, as suggested by Alexander. It is frequently used when the extent of the disease in the better lung contra-indicates thoracoplasty and when pneumothorax cannot be performed, but when

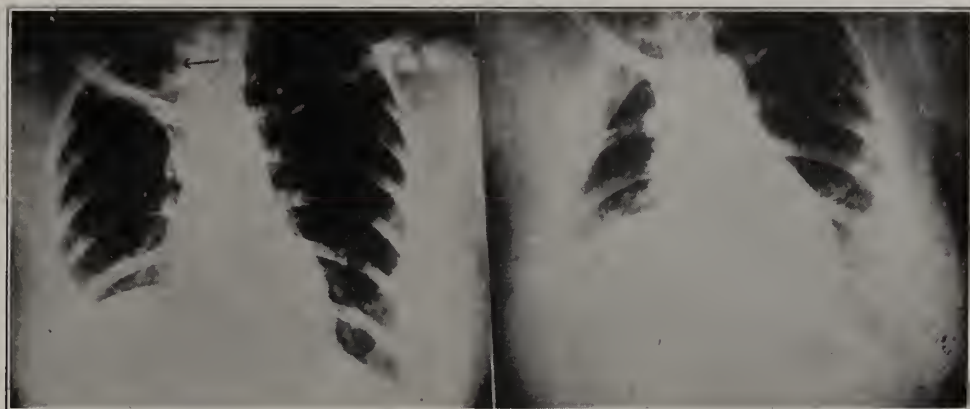


Fig. 1.—Roentgenogram of chest showing a large cavity in the apex of the right lung.
Fig. 2.—Roentgenogram of the same chest as in Fig. 1 after obliteration of the cavity by posterior resection of the upper five ribs.

bronchial secretion by cough. After resection of the lower ribs it cannot function for the removal of secretions and sputum is apt to collect in the lower lobe bronchi and produce a lower lobe pneumonia. When the upper ribs are resected first, the amount of sputum is so greatly reduced that at the time of the second operation there is little to accumulate in the lower lobe bronchi. The collapse is a gradual one with this procedure because that portion of the chest wall supported by the upper ribs collapses following their resection. But when the lower resection is done first, relatively little collapse is obtained until after the second stage when the entire chest wall rapidly collapses. Therefore, if anything should occur to prevent the second stage of the operation, improvement may be expected; whereas, if the lower ribs are resected first and the operation left incomplete, little result will have been obtained.

If thoracoplasty is performed only on well-selected cases, from 35-40 per cent should obtain a clinical cure and from 25-30 per cent be greatly improved.

PHRENICOTOMY. The indications and contra-indications for phrenicotomy are less definite than for either pneumothorax or thoracoplasty. Yates² advises temporary paralysis of the diaphragm by crushing the phrenic nerve in early

it is used in this way the results are often disappointing. Good results are often obtained in extensive basal tuberculosis even

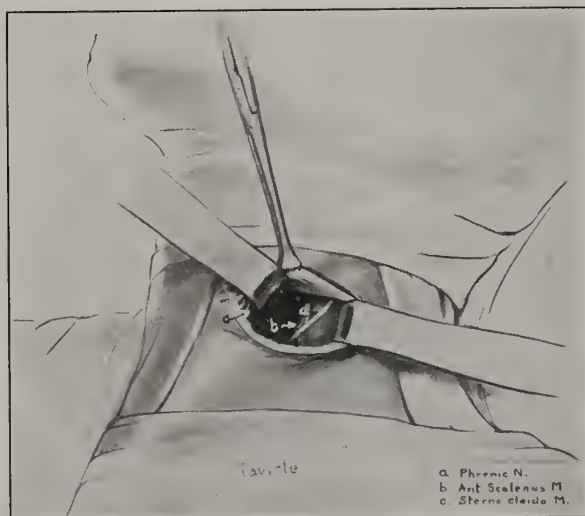


Fig. 3.—Drawing showing the phrenic nerve crossing the anterior scalene muscle in the normal position. a, phrenic nerve; b, anterior scalenus M.; c, sterno-cleido M.

when relatively large cavities are present. It is sometimes useful in conjunction with pneumothorax when the lower portion of the lung is held out by basal adhesions.

Operations on the phrenic nerve may be performed through either a transverse or perpendicular incision. The transverse incision

is preferable because the scar is less noticeable. From four to five centimeters above the clavicle the phrenic nerve is normally found coursing downward and forward on the an-

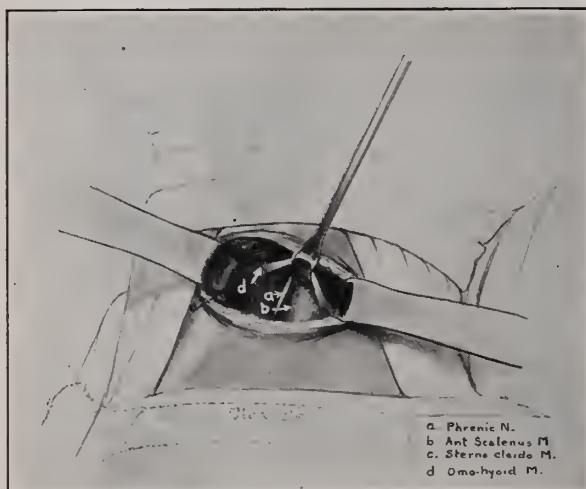


Fig. 4.—Drawing showing the phrenic nerve lying anterior to the anterior scalene muscle. a, phrenic nerve; b, anterior scalenus muscle; c, sterno-cleido muscle; d, omo-hyoid muscle.

terior scalene muscle, but is sometimes located posterior to and occasionally entirely anterior to the muscle. In about 30 per cent of cases there are accessory phrenic nerves. If the

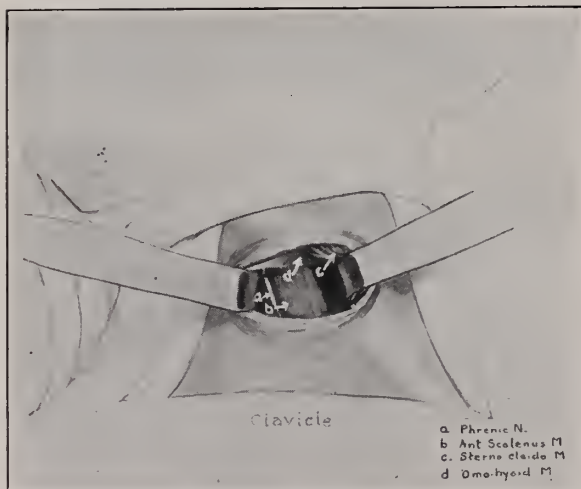


Fig. 5.—Drawing showing the phrenic nerve lying along the posterior border of the anterior scalene muscle. a, phrenic nerve; b, anterior scalenus muscle; c, sterno-cleido muscle; d, omo-hyoid muscle.

main trunk of the phrenic nerve is evulsed the accessory nerves will be destroyed, but if the main trunk is not evulsed the accessory nerves should be searched for and paralyzed.

SUMMARY

Pulmonary collapse is a valuable therapeutic procedure in the treatment of relatively unilateral tuberculosis. Pneumothorax is the most valuable method of collapse and should be used whenever possible. If complete collapse of the lung is prevented by cord- or band-like adhesions, an attempt should be made to divide them. If the adhesions are so extensive or heavy that they cannot be safely divided, thoracoplasty should be considered. The indications for thoracoplasty are essentially the same as for pneumothorax except that thoracoplasty should not be done in the acute exudative lesions, whereas pneumothorax is frequently indicated in such lesions. The contra-indications must be more strictly observed in thoracoplasty than in pneumothorax.

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Memorial Hospital.

THE EXTRACT OF WATERMELON SEED IN THE TREATMENT OF HYPERTENSION.*

By BLANTON P. SEWARD, A. B., M. D., Roanoke, Va.
From the Department of Medicine, Lewis-Gale Hospital.

In January, 1926, Barksdale¹ reported the finding of a glucoside-saponin in the extract of the seed of the watermelon (*Cucurbita Citrullus*). He named that substance Cucurbititrin and he found it to be physiologically active when administered to the normal human being and to normal experimental animals. This activity, which manifested itself in a dilatation of the capillaries, was proved by his microscopic studies after the administration of the drug to the frog. By similar studies with the microcapillary tonometer he found the capillaries in the normal human being were considerably dilated within thirty minutes after the drug had been taken orally. This property of dilating the capillaries suggested to Barksdale the possibility that the drug might be useful clinically in reducing high blood pressure. He found that it reduced the pressure in patients with hypertension due

*Read at the sixty-first annual meeting of the Medical Society of Virginia in Norfolk, October 21-23, 1939.

to tuberculous nephritis, but his results with the drug in patients with arteriosclerosis and hypertension were unsatisfactory. Barksdale also found the drug to be non-toxic when given in very large doses.

Since the introduction of Cucurbocitrin, which is marketed under the trade name "Citrin," we have found in the literature only two articles on its use. Wilkinson² reported the results obtained from its use in sixty-eight cases of "hypertensive cardiovascular disease." In his series, fifty-six of the sixty-eight patients "showed a sufficient reduction of the arterial pressure to be of clinical importance." He thought Cucurbocitrin was more efficacious in hypertension not associated with sclerosis of the small arteries.

Althausen and Kerr³ reported their results following the administration of the drug to forty patients. These observers concluded that "Cucurbocitrin therapy in hypertension cases causes considerable lowering of the blood pressure, and gives complete or marked relief of symptoms in a majority of cases." They stated also that "patients under the age of fifty years and having little cardiovascular damage are more likely to respond favorably to Cucurbocitrin."

With the information derived from these reports, the drug seemed to us to be worthy of consideration, and we subjected sixteen well controlled hypertensive patients to Cucurbocitrin therapy. We were especially anxious to determine which variety of hypertension would respond to the drug, and also for what length of time its effects might persist.

SELECTION AND EXAMINATION OF PATIENTS

We realized the difficulties encountered in deductions from any therapeutic procedure dealing with hypertension, and we preferred to carry out the investigations in patients whose habits and environment would be least disturbed, thus reducing as far as possible the factors of uncertainty which would enter into the appraisal of results. Therefore, ambulatory patients were considered to be more desirable. The majority of the patients,—eleven,—were ambulatory, while five of the patients (Cases 9, 10, 11, 12 and 13) were hospitalized, either because their symptoms were severe or because of the existence of other conditions which proved, as far as we can say, not to be

related to the hypertension but which required treatment. Nearly all of these patients knew they had had high blood pressure for one or more years, and they had had periodic treatment which consisted of rest, dietary measures and sedatives. Several of the patients had been under our observation for three or more months before receiving the drug; the other patients were given the treatment only after they had been under observation a sufficient length of time, from one to three weeks, for their average blood pressure to be determined. Patients with temporarily elevated blood pressures were not utilized.

In every case a complete history was taken and a general physical examination was made with special attention being given to features indicative of involvement of the heart, arteries and kidneys. Laboratory examinations included urinalyses, blood counts, hemoglobin, the phenolsulphonephthalein test and blood urea estimations, though neither of the last two tests was made in two cases. The blood Wassermann reaction was negative in all patients. Electrocardiograms were made when indicated.

METHODS OF OBSERVATION AND TREATMENT

Blood pressure observations were made about the same hour each morning with the sphygmomanometer (Baumanometer) applied to the left arm after the patient had rested comfortably in a chair for five to ten minutes. The hospital patients were kept in bed until the last few days of hospitalization, and their blood pressures were taken every third day, five to ten minutes after we entered their rooms. When the average blood pressure had been determined, Cucurbocitrin was administered in 50 mg. (1/64 grain) doses orally three times a day to the majority of the patients. Two of them took 50 mg. four times daily after having taken 50 mg. three times a day for four days, and two of them took 50 mg. four times daily from the beginning of the treatment. If the patient received no benefit from the drug in fifteen days, it was discontinued, for experience with the earliest treated cases led us to believe that if there was no reduction in the blood pressure within two weeks, none might be expected. No other drugs which might influence the blood pressure were given during this period.

TABLE GIVING CLINICAL DATA AND RESULTS OF CUCURBOCITRIN THERAPY IN 16 CASES

CASE	AGE	SEX	DURATION OF HYPERTENSION	CHIEF SYMPTOMS	CARDIAC SIGNS	ARTERIO-SCLEROSIS	BLOOD PRESSURE			LABORATORY FINDINGS					SYMPTOMATIC RELIEF WITH CUCURBOCITRIN	DAYS OF CUCURBOCITRIN THERAPY	PREVIOUS TREATMENT	REMARKS
							AVERAGE BLOOD PRESSURE BEFORE CUCURBOCITRIN	AVERAGE BLOOD PRESSURE AFTER CUCURBOCITRIN	MILLIMETERS OF REDUCTION WITH CUCURBOCITRIN	ALBUMIN	CASTS	NOCTURIA	PHENOLSULPHONEPHTHALEIN TEST	URINE					CREA, MGS. PER 100 CC. BLOOD
1	38	M	2 Yrs.	Numbness in left side of face and in left arm; palpitation, nervousness for two years.	Slight enlargement of heart; systolic murmur. Aortic 2 accentuated.	None demonstrable.	162-116	156-112	6-4	Trace	Occas. Hyalin	0	55%	15	16	Diet, rest and bromides one year previously. Sodium Sulphocyanate six months previously.	Responded well to Sod. Sulphocyanate six months previously. The blood pressure was reduced from 190-120 to 154-110.	
2	63	M	Unknown	"Fidgets" for three days, came on suddenly. Cannot hold left arm and leg still. Has had this symptom three days. Giddiness occasionally for three months.	Heart enlarged. Aortic 2 accentuated.	Marked in large arteries; moderate in retinal arteries.	190-115	184-115	6-0	Trace	Few Hyalin	1-2	23%	31	None	26	Not any.	Patient had a small hemorrhage near motor area of brain, giving rise to the irritative phenomena. Took Cucurbitrin, 50 mg. t. i. d., for four days, then 50 mg. four times daily. The drug was given twice later on, ten days each time; no reduction in the pressure was observed. Died two months later, following cerebral hemorrhage.
3	45	M	5 Yrs.	Inability to concentrate attention. Weakness, dizziness, palpitation and dyspnea.	Heart slightly enlarged. Systolic murmur at apex.	Moderate in large arteries; slight in retinal arteries.	196-110	178-102	18-8	Trace	Few Hyalin	3-5	67%	..	Complete	14	Diet.	Blood pressure 15 m. m. lower after third dose. Took Cucurbitrin at intervals of one month, with the same amount of reduction.
4	62	F	Unknown	Nervousness, palpitation and dyspnea.	Heart slightly enlarged. Soft systolic murmur. Aortic 2 accentuated. Ecg. notched QRS III.	Slight in retinal arteries.	178-110	170-108	8-2	0	0	0	..	..	None	15	None.	Abscessed teeth extracted before Cucurbitrin was prescribed. B. M. R. plus 2.

520M 2 Mos.	Irregular heart.	Moderate tachycardia, varying between 90 and 130. Sounds were of good quality. Normal size (X-Ray). Ecg. normal.	None.	142-80	138-80	4-0	0	0	0	0	...	Slight	15	None.	A college student whose blood pressure was found to be elevated when he was examined for R. O. T. C. B. M. R. minus 14.
673M 2 Yrs.	Frontal headaches, irregularly each day, for six months. Dizziness occasion.	Heart slightly enlarged. Aortic 2 accentuated.	Moderate in larger arteries. Retinal arteries look normal for age.	186-80	162-70	24-0	1 plus	Few Hyalin	1-3	33%	38	Complete	14	None.	Blood pressure showed decrease on third day. Takes Cucurbitin at intervals of six to eight weeks.
768F 5 Yrs.	Dizziness, occipital headaches in A. M.; weakness.	Quality of first sounds good for age. Aortic 2 accentuated. Slight increase in TD and in retrosternal dullness on percussion.	Marked in larger arteries. Retinal arteries show slight degree of sclerosis.	180-100	160-96	20-4	Trace	Hyalin	3-4	..	34	Complete	16	Diet; bromides.	No reduction in blood pressure until the third day, when it was 15 m. m. lower. Takes 50 mg. Cucurbitin t. i. d., for ten days every two months.
855F 15 Yrs.	Occipital and generalized headaches in A. M., dyspnea, pains around heart and in left arm; weakness and gradual loss of weight.	Heart moderately enlarged. Aortic 2 accentuated. Systolic murmur. Ecg. marked left preponderance and inverted T III.	Moderate in both the large and small arteries.	178-110	182-118	0	0	0	1	55%	20	None	21	Diet; bromides; luminal and rest. One year ago and again six months ago, took Sodium Sulphocyanate Gr. III t. i. d. for three weeks.	A reduction in this patient's blood pressure, with an improvement in symptoms after Sulphocyanate.
940F 8 Yrs.	Nervousness, dizziness, occipital headaches in A. M., spots before eyes, choking sensations.	Heart enlarged, rate increased, aortic 2 accentuated. Ecg. tachycardia, 120; marked L. V. P. notched Q. R. S. III inverted P III and T III.	Marked in retinal arteries; palpable arteries feel normal.	220-138	220-138	0	Trace	0	1	37.5%	20	None	16	Bromides; rest in bed.	This patient had hyperthyroidism also; first B. M. R. plus 58, which came down to plus 15 after taking Lugol's Sol. and Luminal. When the doses of these drugs were reduced, the rate went to plus 40, but it came down to plus 16 when the drugs were given in larger doses. Then these drugs were discontinued and she was given Cucurbitin, 50 mg. t. i. d., but no reduction in blood pressure was observed. X-Ray treatments given for hyperthyroidism.

Case	Age	Sex	DURATION OF HYPERTENSION	CHIEF SYMPTOMS	CARDIAC SIGNS	ARTERIO-SCLEROSIS	BLOOD PRESSURE			LABORATORY FINDINGS					DAYS OF CUCURBOCITRIN THERAPY	PREVIOUS TREATMENT	REMARKS
							AVERAGE BLOOD PRESSURE BEFORE CUCURBOCITRIN	AVERAGE BLOOD PRESSURE AFTER CUCURBOCITRIN	MILLIMETERS OF REDUCTION WITH CUCURBOCITRIN	ALBUMIN	CASTS	NOCTURIA	PHENOLSTUPHONEPH-THALEIN TEST	URINE UREA, MGS. PER 100 CC. BLOOD			
1051	M	10 Yrs.		Occipital headaches in A. M., for three months. Numbness in left side face and in left arm for ten days and in left foot for three days. Dyspnea.	Heart moderately enlarged; aortic 2 accentuated. Ecg. L. V. P.; notching Q. R. S. III.	Marked in retinal arteries; slight in larger arteries.	194-140	182-138	12-2	Slight Trace	Hyalin	1	34%	35	14	Not any.	Cucurbocitrin 50 mg. at 8, 12, 4 and 8 o'clock. No lowering of blood pressure. One week after taking the drug, he felt more comfortable.
1160	M	Un- known		Fatigues easily for two months; insomnia.	Heart moderately enlarged; systolic murmur. Aortic 2 accentuated. Ecg. marked L. V. P., T III inverted.	B o t h large and small arteries.	190-106	190-106	0	1 Plus	Occas. Hyalin	1	33%	32	15	Not any.	50 mg. Cucurbocitrin 8, 12, 4 and 8 o'clock.
1233	F	1 Mo.		Occipital headache in A. M. for four months. Diplopia and blurring of vision for three weeks.	Heart moderately enlarged. Soft systolic murmur at apex. Aortic 2 accentuated. Ecg. inverted T III.	Marked in retinal arteries. Retinal hemorrhage in left.	180-110	180-114	0	1 Plus	0	1	45%	27	15	Rest in bed; bromides.	Pyelitis on both sides for five years. No cystoscopic treatments for three years. Hospitalized for three weeks during which time Cucurbocitrin was given t. i. d. No cystoscopic treatments were given on account of the hypertension.
1355	F	Un- known		Failing vision, dizziness, pains around heart; dyspnea and palpitation. Occipital headaches in A. M. for three months.	Heart much enlarged. Muscle element, first sound fairly good; systolic murmur. Aortic 2 amphoric in quality. Ecg. marked L. V. P. Inverted T III.	Moderate in retinal arteries. Very slight in larger arteries.	190-115	190-115	0	1 Plus	0	1-2	30%	25	15	Not any.	Cucurbocitrin, 50 mg. t. i. d. for four days, then four times daily for eleven days.

14 62 F 3 Yrs.	Numbness in both hands, more in left; dizziness.	Not enlarged. Sounds are of good quality.	Slight in retinal arteries and in large arteries.	186-94	180-92	6-2	o	o	o	1	45%	o	Partial	14	Not any.	Five months after treatment, the level of blood pressure was 168-90 and the symptoms had disappeared. This improvement was not due to Cucurbitacin.
15 62 M	Moderate weakness, dizziness and loss of weight.	Heart moderately enlarged; quality of sounds good; systolic murmur. Aortic 2 accentuated.	Definite in large arteries; slight in retinal arteries.	210-115	180-97	30-18	1 Plus	o	o	1	...	...	Complete	15	Rest; bro-mides; diet	During the past two years, the patient has had four attacks of heart failure, each accompanied by auricular fibrillation. Last attack seven months ago. Resumed his work, farming, 2½ months later. Has been working steadily since.
16 60 M	Weakness, nervousness, dizziness, frontal and occipital headaches in A. M.	Heart enlarged; quality of sounds fairly good. Systolic murmur at apex; basal second sounds accentuated.	Marked in large arteries; slight in retinal arteries.	197-105	195-102	2-3	o	o	o	1	42½%	40	None	18	Diet; rest.	Two months after Cucurbitacin was administered, the patient's general condition improved; his blood pressure was lower, 175-96; this reduction is not attributable to Cucurbitacin.

CLINICAL OBSERVATIONS

Blood pressure readings were made twenty-five minutes after ten patients had received the first dose in order to determine whether Cucurbitacin causes an immediate reduction of the pressure. No immediate responses were observed. Althausen and Kerr³ reported that "following a single dose of Cucurbitacin there is usually in hypertensive cases a fall of the systolic and diastolic pressures beginning about fifteen minutes after the administration of the drug." In our group the earliest reduction was observed in Case 3, one-half an hour after the fourth dose had been taken, the systolic pressure being 15 m.m. lower than it was in any of the previous readings. When the drug acted favorably in other patients no significant reduction in their blood pressures was noted until the third day of treatment, and the continued administration of the drug in these cases brought about a prolonged reduction in the pressure, accompanied by symptomatic improvement.

A reduction of 18 m.m. or more of mercury in the systolic pressure occurred in four of the sixteen patients, the average reduction being 23 m.m. in the systolic and 10 m.m. in the diastolic. The most marked reduction observed was 44/30 m.m. (from 190/80 to 146/50) in case 6, twelve days after beginning the treatment. The effect of Cucurbitacin persisted from three to eight weeks, the average duration being five and one-half weeks. When it became necessary to give the drug at later intervals, the same dosage produced the same degree of lowering of the pressure.

Complete symptomatic relief was noted by the four patients in whom a satisfactory reduction of the blood pressure occurred; a sense of well-being, a clearer mind and more energy were experienced by each patient. Four of the patients experienced slight or partial improvement which was probably due to the psychic effect of taking medicine. Eight patients observed no improvement in their symptoms.

No untoward effects, either from a considerable lowering of the pressure or from toxic action of the drug, were observed in any of the patients. Frequent urinalyses revealed no evidences of renal irritation. When a reduction in the pressure occurred, the quality of the first cardiac sound improved and the aortic second sound became less accentuated.

DISCUSSION

A satisfactory reduction in the blood pressure occurred only in four patients in a group of sixteen treated with Cucurbocitrin. The question, what constitutes a satisfactory reduction, may be raised. It is a well known fact that blood pressure, especially the systolic, is labile; so many factors are responsible for the variations that conservatism is required in evaluating the results obtained from the employment of any drug in the treatment of hypertension. Such factors as the age of the patient, the sex, the degree and duration of the hypertension, arteriosclerosis, renal damage and the mental attitude of the patient must be taken into consideration when reduction in the pressure and symptomatic improvement are noted. These factors were borne in mind in this attempt to appraise the value of Cucurbocitrin.

An average minimum reduction of 20 m.m. in the systolic pressure with a corresponding reduction in the diastolic may be considered a satisfactory lowering of the blood pressure; therefore, an average reduction of 20 m.m. was chosen as the criterion of success with Cucurbocitrin therapy. This figure represents the average reduction from the time Cucurbocitrin produced the desired effect until it became necessary to administer the drug again.

The age of the patients was not a factor in determining the success of the treatment in this series. The average age of those who responded to the treatment was sixty-two years, while the average age of those who did not respond was forty-nine years. Severe hypertension occurs more frequently in the latter age group, and is less amenable to treatment, whereas in elderly persons with hypertension the level of the blood pressure is often not as high, and it may be more easily reduced by drugs which produce either a vasodilator or a sedative effect.

Three of the patients who were benefited were males, the fourth was a female who had passed through the menopause twenty years previously. Although there was only one female who responded to the treatment, we believe the sex is of little importance in estimating the value of Cucurbocitrin or of any drug in the treatment of hypertension. The amount of renal damage seemed also to have no bearing on the results obtained from the use of

Cucurbocitrin, as the patients who were benefited by the drug presented evidences of as severe nephritis, such as nocturia, albuminuria, casts and urea retention, as those in whom the drug was not effective.

The duration of hypertension, as calculated from the time of detection by instrumental means, appears to be definitely significant in the results obtained with Cucurbocitrin. The patients who responded to this treatment gave a history of having had high blood pressure for five years or less, the average duration being four years. On the other hand, the average duration of hypertension in those patients who were not benefited by this treatment was seven and one-half years. In other words, those patients who were not benefited had had hypertension nearly twice as long as those whose symptoms were improved and blood pressures were reduced.

When the level of the blood pressure remains above the normal, varying degrees of arteriosclerosis develop and we will usually find that the sclerosis predominates either in the large arteries, as in the radial, or in the small ones, as in the retinal, though sometimes the same degree of sclerosis may be found in both the large and small arteries. Sclerosis mainly of the small arteries is more frequently associated with the hypertension of middle aged persons; in these patients we often see both the systolic and the diastolic pressures much above the normal. Sclerosis of the large arteries without much sclerosis of the small ones is often associated with a moderate increase in the systolic pressure and a slight or moderate increase in the diastolic in elderly persons. High blood pressure in these persons may be spoken of as senile hypertension. Senile hypertension as a rule responds more readily to drug therapy than hypertension in middle aged persons and, as will be seen in the table, the favorable results obtained with Cucurbocitrin in our series of patients were observed in patients who had this type of hypertension. The other patients, excepting the two who were not benefited by this treatment, showed extensive sclerosis of the retinal arteries. The two exceptions were Cases 1 and 5, in which no sclerosis was demonstrable in either the large or the small arteries, yet no significant reduction in the pressure was observed in either case.

The mental attitude appeared to have little

if any influence on the reduction of the pressure in those patients who responded to the treatment. All of them were phlegmatic in temperament; none of them was susceptible to suggestion, or worried about their blood pressure, and they continued doing their work, which in each instance was not heavy but required constant effort.

SUMMARY

1. A brief review of the pharmacologic action of Cucurbocitrin is given.

2. The methods of the examination of sixteen patients to whom Cucurbocitrin was given and of the administration of the drug are outlined.

3. Cucurbocitrin was effective in reducing the blood pressure in four of the sixteen patients, but no immediate reduction was observed. The administration of the drug for two weeks brought about a prolonged reduction accompanied by symptomatic relief.

4. The patients who were benefited had the senile type of hypertension,—a moderate elevation in the systolic pressure with a slight or moderate increase in the diastolic. In each of these patients the large arteries were markedly sclerosed.

5. The average duration of the effect of Cucurbocitrin in these patients was five and one-half weeks.

6. Cucurbocitrin was not effective in reducing the pressure in patients who showed extensive sclerosis of the retinal arteries.

7. The age of the patients, the sex and the amount of renal damage seemed to have no influence on the success of Cucurbocitrin in this group of patients. The duration of hypertension and the site of the sclerosis were important factors in the results obtained with Cucurbocitrin.

8. Cucurbocitrin may be given in large doses without producing toxic effects.

CONCLUSIONS

1. Cucurbocitrin appears to be efficacious in reducing the blood pressure in patients with senile hypertension.

2. This drug appears to be of little if any value in the treatment of the severe grades of hypertension with which much sclerosis of the small arteries is associated.

3. This study reaffirms the fact that a reduction in the blood pressure by a drug is due to a dilatation of the small arteries and capil-

laries and when they have lost their elasticity by becoming sclerotic, no drug known at present will be successful in reducing the pressure.

We wish to express our thanks to the Table Rock Laboratories of Greenville, S. C., for supplying the drug for this study.

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FATAL EMBOLI—WITH REPORT OF CASES.*

By O. T. AMORY, M. D., Newport News, Va.

Case No. 10,482, M. I., female. Married. Age forty-nine. Housewife. Weight 220.

Was admitted to the Riverside Hospital, December 7, 1928, at 4 P. M. with a diagnosis of strangulated hernia the size of a large grapefruit. Had been strangulated since 11 A. M. Numerous efforts at reduction had met with failure.

Gave a history of having had numerous strangulations previously, some of which she had been able to reduce, and others a physician had reduced. Patient was acutely ill. Blood pressure 144 over 90. Urine—specific gravity 1,038, trace of albumen, positive for sugar, trace of acetone. Many hyaline casts, an occasional granular cast and an occasional leucocyte cast. Hemoglobin 82 per cent. Red blood cells 4,616,000. Whites 15,000. Polys 84, and so forth.

She was operated upon immediately under local, nitrous oxide, and small amounts of ether. She was stimulated while on the table. At operation there was a sac the size of an infant's head, multi-locular in type, consisting of four or five different sacs. In each of these the omentum was found densely adherent and there was a foot of small bowel incarcerated in the sacs. After repeated applications of heat, the bowel regained its tone and cleared up all right. The wound was closed routinely. The patient was lavaged on the table and, after removal to her room, she drank 2,000 c.c.

*Read before the Warwick County Medical Society, at Newport News, Va., October 27, 1930.

of saline in either axilla readily. External heat, fluids, stimulation, and insulin were given with immediate gratifying results. Her progress notes were as follows:

December 7, 1928.—Patient admitted in rather marked shock, critically ill and was operated immediately for strangulated umbilical hernia.

December 8, 1928.—Patient is doing fairly well, slightly nauseated, urine contains sugar and acetone. She is still nauseated this evening, and stomach was lavaged.

December 9, 1928.—Patient is slightly better this morning, not quite so nauseated, had a fair night, expelling glucose and soda with flatus.

December 10, 1928.—General condition is improved. No nausea. Taking liquid nourishment. Good results from an enema.

December 11, 1928.—General condition improved.

December 12, 1928.—Patient is doing very nicely; taking some soft diet.

December 13, 1928.—Feeling much better this morning; had a good night. Good bowel movement.

December 14, 1928.—Patient is greatly improved, general condition is very good.

December 16, 1928.—Patient doing very nicely. Wound dressed, tension sutures removed.

December 18, 1928.—Patient doing very nicely. Wound dressed, dermal sutures removed. Wound strapped.

December 22, 1928.—Doing very well; general condition good, on limited select diet. Daily bowel movement.

December 24, 1928.—Doing very good.

December 25, 1928.—Patient out of bed; general condition good.

December 26, 1928.—Wound dressed and there was a slight amount of serum in the lower angle of the wound which was evacuated. Urine still positive for sugar. Patient will be discharged tomorrow.

December 27, 1928.—During the night patient developed phlebitis in the left leg that became greatly swollen and purple with considerable pain, requiring an opiate. Wound was dressed this morning. Very little serum in the wound. About 10:15 A. M. patient was taken with sudden loss of consciousness,

difficult breathing with cyanosis, and died immediately.

I was out of the city this particular morning and patient was seen by my associates. From the general description I think we are safe in saying this patient had developed a cerebral emboli.

Upon my return, the patient had been removed to her home in the country and an autopsy was not obtainable.

Case 12,528.—Male. J. F. C. Age forty-one. Farmer.

Was admitted to the Riverside Hospital April 13, 1930, with the following history:

For the past twenty years patient had periodical attacks of pain in the upper abdomen, gas, indigestion, constipation, and so forth. For the past two or three years these attacks had been closer together, more severe, and lasting longer. Physical examination was essentially negative with the exception of X-ray dye of the gall-bladder which showed a pathological gall-bladder with one large stone, slight tenderness over the gall-bladder, and rather marked tenderness over the appendix. His heart was negative, no murmurs, shocks or thrills heard. Blood pressure 120 over 80. Hemoglobin 80 per cent. Red blood cells 4,880,000. Whites 5,200. Urine negative.

April 14, 1930, patient was operated with right rectus incision. The appendix was subacutely inflamed and embedded in adhesions. Gall-bladder was thickened, tense, chronically inflamed with numerous adhesions and one large stone. Gas, ether anesthesia.

His progress notes are as follows:

April 13, 1930.—Admitted to the hospital. General physical examination showed condition good. Prepared for operation in the morning with a diagnosis of cholecystitis with one large stone, chronic appendicitis.

April 14, 1930.—Patient stood the operation very well, and reacted normally. Was unable to void; slight nausea, no vomiting. Had a good post-operative night and day.

April 15, 1930.—Wound dressed, moderate amount of drainage. General condition good; unable to void.

April 16, 1930.—Wound dressed, cigarette drain shortened, moderate amount of drainage. General condition good. Quite a bit of nausea. Was given gastric lavage at 10 P. M.

Voided normally today and has had good results from two enemas.

April 17, 1930.—He had a good night, no nausea nor vomiting. Moderate amount of drainage; general condition good. Taking liquids today.

April 19, 1930.—Is very much better today, taking liquids. Wound dressed; very little drainage; tube removed; in good condition.

April 21, 1930.—Wound dressed, tension sutures removed; wound in good condition. Soft diet.

April 24, 1930.—Wound dressed, no drainage. General condition good; dermal sutures removed. General condition of the operative field and patient very good.

April 26, 1930.—Patient had a very good night. Wound strapped; propped up in bed. On select diet. General condition good.

April 28, 1930.—He went to sleep at 11 P. M., after a very good day, slept until 6 A. M., when he was awakened with acute precordial pain and dyspnea. I saw him fifteen minutes later; he was in what I considered acute pulmonary crisis, dyspnea, cyanosis, collapse, and died ten minutes later.

This case I have pronounced as pulmonary emboli.

These cases are presented:

First: To discuss a real surgical tragedy that will befall any surgeon of any considerable amount of experience, sooner or later.

Second: To see what we really know about its cause.

Third: Its symptomatology.

Fourth: Its progress and prognosis.

Fifth: Treatment.

In the author's opinion we are dealing with an embolus or emboli regardless of where it terminates. Therefore the whole after-picture will be determined by the size, number, and vital tissues involved. What is the cause of this condition? Why should a patient survive the trauma, shock, and so forth of a major surgical procedure, progress nicely, and be apparently well on the road to complete recovery, then all of a sudden out of a clear sky develop a picture of this kind? The medical profession has never satisfactorily answered that question, but as usual there are quite a number of theories.

ETIOLOGY.—Under the contributory causes one may mention: It is more frequent after

middle life. Surgical cases are more susceptible than medical. Varicosities give a peculiar susceptibility. The condition is very rare if the operation is above the diaphragm. Thrombophlebitis usually precedes. Any variety of cardio-vascular disease is a factor. As a predisposing cause, intravenous therapy has been mentioned. Venous stasis predisposes. Gynecological cases head the list. Left common iliac vein or one of its branches are frequently involved. Undue trauma, dehydration, lying still in bed, low blood pressure and so forth, enter the picture.

As to the theories, we have three distinct schools:

(a) Aspiration hypothesis; (b) Embolic; (c) A third school of more recent origin emphasizes the frequency of massive or lobular atelectasis resulting from bronchial obstruction.

Holman and Mathis have proven that an embolus must be infected to produce marked pathological changes in the lung.

Foss and Kupp, studying the pulmonary complications following more than four thousand general surgical operations, and four thousand operations on the nose and throat, all performed in the same hospital with same anaesthetists and paralleled operating room technique, found an incidence of 1.7 per cent on the general service, while there were no cases of pulmonary complications whatever on the nose and throat service. The incidence of pulmonary complications following spinal anaesthesia was found to be as great as with patients who were operated upon under general inhalation anaesthetics. They further conclude that their studies strengthen the theory that embolism plays the chief role in the production of most post-operative pulmonary complications and that: (1) infarctions (minor emboli) are far more common than has been generally supposed; (2) aspiration plays but a minor role in the production of pulmonary complications; (3) pulmonary complications are, relatively, infinitely less common following operations on the upper respiratory tract than following operations on the abdomen and pelvis; (4) irritation by the anaesthetic or the aspiration of foreign substances during inhalation anaesthesia probably plays a part in the production of post-operative bronchitis and pneumonia (however, the

fact that these complications follow spinal and even local infiltration anaesthesia with great frequency suggests that other factors are of equal importance); (5) the incidence of post-pulmonary complication is as high following spinal anaesthesia as after general inhalation anaesthesia.

SYMPTOMATOLOGY.—Quite frequently there are encountered at autopsy a number of cases with emboli or infarcts of the lungs which are not recognized during life, which, however, have symptoms. In the pulmonary condition one may find four or five different types of disease.

(a) There may be a small number of emboli which may not produce any marked symptoms. It may clear up and have repeated attacks without being recognized.

(b) There may be found a number of emboli producing a slightly more marked picture with slight dyspnea, pain, and coughing up of blood, frequently confused with post-operative bronchitis, or acute pulmonary tuberculosis.

(c) In the third group there occurs certain pulmonary changes that may possibly determine the seat of pulmonary emboli during life.

(d) Finally there are a group in which the emboli produce a rapid asphyxiation by a sudden plugging of the main trunk or a branch of an artery. The author will make no attempt to discuss the various symptoms produced by each type or the various methods of determining their existence.

In the cerebral type the same general conditions exist, but are more pronounced and more definite usually because the areas involved are more vital.

ITS PROGRESS AND PROGNOSIS.—This will always depend upon the tissue or tissues involved and the extent of involvement. If one gets a plugging up of the main pulmonary or cerebral artery, it means invariably sudden death. Regardless of what procedure is instituted for its relief, if a vital structure is involved, the progress will vary in proportion to areas involved and amount of involvement. Frequently the condition is so slight as not to be recognized. In others, slightly more involvement may leave a chain of sequelae, varying from slight bronchitis, pneumonia, lung abscess or gangrene of the lung, various heart changes, and so forth. You may have repeated attacks of the cerebral type, when less silent

areas are involved, or small emboli in vital areas develop. One may find various other mental manifestations varying from slight aphasia to various mental incapacities.

TREATMENT.—Prophylactic. Hyperventilation during and after operation with carbon dioxide and oxygen as advocated in patients known to be prone to develop this condition. (Scott and Cutler.)

Change the position of the patient every six hours after operation. (Sante.)

Curtailement of post-operative sedatives, especially those that depress the cough reflex. The use of thyroid as suggested by Walters.

When the symptoms definitely appear, the oxygen tent is usually the most effective aid. From an operative standpoint, Trendelenburg's operation has been successful in the hands of some surgeons, as well as decompression in the cerebral types.

Medical Arts Building.

A PROBLEM IN INTESTINAL SURGERY.*

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Medical School.

The patient, white, aged seventeen, was referred to me on June 20, 1930, from a city in Maryland. The following history was obtained: She has had the usual diseases of childhood, and, prior to January, 1928, has had no serious illness and no operations. She menstruated first in November, 1927.

Late one evening in January, 1928, while at her home, she was seized with abdominal pain and vomiting. She was taken to a hospital and operated upon at 6 o'clock the following morning for appendicitis. No drainage tubes were inserted, and she left the hospital after fifteen days with the wound apparently healed. Four days later the wound opened, and pus and blood were discharged. After draining for three weeks, she returned to the hospital and was operated upon again. The wound did not heal, and after an interval of six weeks, she underwent her third operation. After her third operation, she remained in the hospital for one month and was discharged with the wound still unhealed. One week after her discharge from the hospital, the wound commenced to bleed profusely, and she returned to the hospital, where the fourth opera-

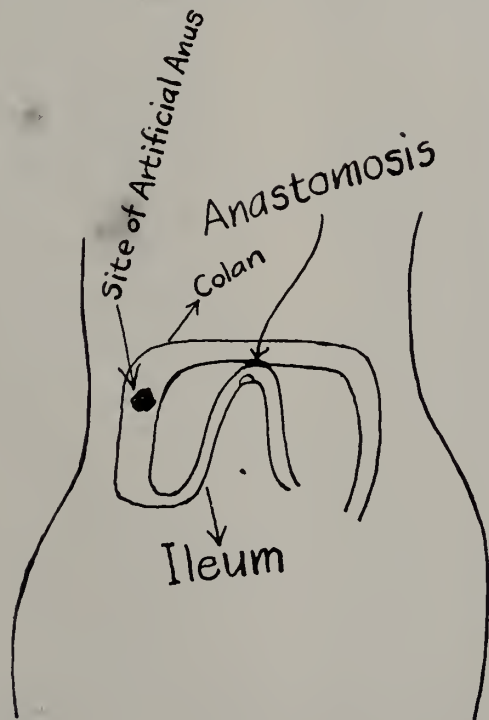
*Read before the Medical Society of Northern Virginia, Maryland, and the District of Columbia, Raleigh Hotel, Washington, D. C., December 3, 1930.

tion was performed. After this operation, which was in June, 1928, fecal material commenced to discharge from the wound. This discharge continued until September, 1928, when she again entered the same hospital and was operated upon for the fifth time, but by another surgeon. After four weeks, she was discharged with the fecal fistula still present. In February, 1930, bowel movement by way of the rectum ceased, and from that time until I saw her in June, 1930, the fecal fistula served as an artificial anus.

EXAMINATION: June 20, 1930. The patient is a well-developed, thin, discouraged individual, who is very nervous and emotional, and who faints on the slightest provocation. She has been a recluse since September, 1928, and has refused to leave her home to take part in any enterprise which would involve her seeing other people. She is pale; her skin is clear. Estimation of her red cell count is 4

scarred and puckered from previous operations.

OPERATION: June 21, 1930, ether anaesthesia. The skin margin of the artificial anus was sutured snugly with catgut, and an elliptical incision was made which followed the direction of the shore of the hernia. The tissues included in this incision were dissected from the abdomen and lifted with the bowel attached at their center. The bowel was then separated from the overlying structures, and the artificial anus was found to involve the colon just below the hepatic flexure for one-half its circumference. The edges of the gut were trimmed and approximated by suture.



Drawing shows conditions found on operation and what was done.

million, and her white cells number 7 thousand. Her abdomen is flat, and an area to the right of the umbilicus is involved in a large ventral hernia, which is 4 inches by 4 inches in diameter. In the center of the hernia is an opening, measuring $1\frac{1}{2}$ inches by $1\frac{1}{2}$ inches, through which fecal material can be seen. The skin over the hernia is



Fig. 1.

This reduced the lumen of the colon at this point to about one-half of what would be normal. In order to avoid tension on the sutures and stasis in the colon, a side to side anastomosis of the ileum and the transverse colon was done. The line of suture for the anastomosis was covered by omentum, and the intestines were returned to the abdomen. The end of a soft rubber drainage tube was placed near the anastomosis, and the ventral hernia

was repaired by overlapping the abdominal wall with four heavy silk mattress sutures, the lateral wall being tucked under the mesial wall. Imbrication continuous suturing of number one chronic catgut was performed, and the skin was closed with black silk.

A soap-sud enema was given on the fourth day, which resulted in a large stool and much gas. The drainage-tube was removed on the fourth day. On the seventh day there was a free discharge of dark brown pus from the wound which has a strong colon bacillus odor. The patient was fed two tablespoonfuls of raspberry jam, and the dressings were searched for raspberry seeds. Seeds did not appear in the dressings, and it was concluded that there

They were taken on October 14, 1930, and explain themselves:

Fig. 1.—An X-ray of the intestines after a barium enema. It shows the anastomosis of the ileum to the transverse colon in the middle third. The barium passes freely into the last portion of the ileum, filling both the afferent and the efferent loops. It also shows some barium passing the constricted ascending colon which was the site of the former artificial anus.

Fig. 2.—Presented to show the increase in weight and the general physical health of the patient on October 14. The scar following six surgical operations is quite apparent, but is firm, and there is no hernia present.



Fig. 2.

was no communication with the bowel. At the end of the second week, the patient was able to take short walks, and she left the hospital on July 13 for her home.

I am indebted to Dr. Fred E. Coe, Roentgenologist, Georgetown University Hospital, for the pictures which accompany this article.



Fig. 3.

Fig. 3.—A side view of the patient taken to expose the site of the scar and to call attention to the fact that there is no bulging.

CONCLUSION: This case suggests several interesting thoughts:

1. The five previous operations were performed at too short intervals.

2. The short circuiting of the intestine relieved the tension on the colon sutures and allowed healing to take place.

3. Pus that is contaminated with the colon bacillus resembles feces very closely, and the feeding of raspberry jam is a good test of the integrity of the bowel.

4. Heavy silk mattress sutures used in closing ventral hernia are suitable even when the wound becomes infected and even though it may take years to absorb them.

5. It is possible to take a neurotic, despondent, unhealthy girl, who had become a recluse, and by an operation restore her to her friends and her family in good health and in good spirits.

1835 Eye Street, Northwest.

MILK PROTEIN THERAPY IN EYE DISEASE.*

By H. W. CARTER, M. D., Washington, N. C.

The first use of albuminous substances for parenteral injection in disease was by Ludk  who used deuteroalbumose in 1914.

A little later Schmidt injected cow's milk for the same purpose and demonstrated that albuminous substances have the power of producing in the body an action similar to that produced by the specific sera and vaccines.

All sera and vaccines contain albumen, and we can sometimes increase the action of the specific therapy by combining a non-specific with it.

But while specific therapy either furnishes the body with prepared antistances or excites it to manufacture antibodies, albuminous bodies are the sole factor in the non-specific.

Non-specific protein therapy can increase the specific function of the cell and, in cases in which the specific treatment cannot be employed, recourse must be had to the non-specific. Indeed, in many conditions specific serums and vaccines have been discarded in favor of non-specific protein therapy.

That foreign protein therapy is valuable in treating any infective focus was conclusively shown only recently by Clarence Porter Jones and Foy Vann in curing or benefiting 57 out of 64 cases of left-over infections, that is, infections in which the focus or foci had been

removed as far as possible with old out-of-date typhoid vaccines.

The best and most frequently used foreign protein for parenteral injection in the treatment of eye diseases is cow's milk.

Since Schmidt first demonstrated its usefulness, many investigators and research workers have confirmed its value in the treatment of eye infections, and it has been used by many practitioners both in this country and in Europe in combatting serious ocular inflammation.

The value of milk protein therapy in the treatment of eye diseases is immensely increased by reason of the fact that we are dealing with an organ of special sense, as well as one composed of some structures which are practically inaccessible from without.

How does the intramuscular injection of cow's milk act in arresting inflammation in eye infections?

The explanation is not clear. Whether it is due to an increase in the leucocytes, protoplasm activation, irritative therapy, the production of fever, an affinity for the spleen, bone marrow and lymph nodes, or to a focal reaction in the area of the lesion, it does seem to have a special affinity for the eye and all of its structures when in a state of inflammation.

It probably has a similar affinity for foci of infection in other parts of the body, as cures of frontal sinus and other infections have been noted following intra-muscular injections of milk proteins.

Cow's milk should be placed in the water bath at boiling temperature for ten minutes and allowed to cool, after which it is ready for use.

The dose depends upon the age of the patient, children being given from 2 to 5 c.c. and adults from 5 to 10 c.c.

It is injected intra-muscularly in the gluteal region.

The injection is nearly always followed in from 6 to 12 hours by a violent reaction, such as pains, inflammation, swelling and possible abscesses at the site of inoculation, and by a chill, fever, rapid pulse, dizziness and a feeling of malaise, which usually subsides within 24 hours, but sometimes persists for 48 hours.

The injections have proven of special value in the treatment of gonorrheal affections of the eye, iritis—especially gonorrheal or rheumatic iritis—cyclitis, albuminuric retinitis,

*Read before the 35th annual session of the Seaboard Medical Association of Virginia and North Carolina, at Elizabeth City, N. C., December 3, 1930.

choroiditis of an infectious nature, corneal ulcers and infected traumatic injuries.

The injections should be followed by rest in bed in a dark room and by local treatment, such as atropine, dionin, and hot or cold applications.

Within 24 to 48 hours after the first injection, the local symptoms of pain, swelling and inflammation begin to subside, the patient becomes more comfortable and experiences a sensation of well-being.

As a rule, the symptoms continue to improve with subsequent injections.

The reaction and extreme discomfort following parenteral injections of milk have been a great drawback, and for this reason it has been very little used except in the worst type of cases.

Other albuminous substances, as ophthalmosan, aolan, caseosan, yatren-casein, etc., have been used in an attempt to reduce the general disturbances caused by milk, which, according to Haas, acted as a retarding factor in the process of healing. Haas conducted many experiments to win a compound from milk which would retain the healing effect of the protein substance without the accompanying disagreeable symptoms.

In the course of these experiments, he discovered that it was possible to increase the therapeutic effect of the protein substance, and he finally succeeded in producing a compound called vistosan, a milk derivative, which was homogeneous, durable and simple, and free from any of the objectionable features of milk or the other protein preparations previously used.

By the fortification of vistosan with strychnine Haas not only increased the therapeutic action of the protein, but obtained for the preparation a specific affinity for the eye, the strychnine not only acting as a stimulant and general corrective, but also exercising a selective therapeutic affinity for the nerve structures of the eye.

Vistosan is produced in the chemical laboratory, "Alemania," in Berlin—Wilmersdorf, and is distributed in this country by Pabst Chemical Company, of Chicago.

Vistosan 1 and Vistosan 2 are put in ampoules of 5 c.c. each.

Vistosan 1 contains 0.6 per thousand of strychnine glycerophosphate and Vistosan 2

contains 1.0 per thousand of strychnine cacodylate.

In Vistosan 1 the composition augments the general healing effect of the protein substance, while in Vistosan 2 the admixture possesses a peculiar affinity for certain tissues of the eye, that is, of the iris and of the optic nerve when the latter is in a state of degeneration.

Vistosan, like milk, is injected intra-muscularly in the gluteal region with the patient in the recumbent position. The first two injections are best made at intervals of two days, after which they are given every third day.

Five injections are usually sufficient, though in some cases only two are needed. I prefer to use a 5 c.c. Luer syringe with a No. 22 needle $1\frac{1}{2}$ inches long. Vistosan 1 is used in the treatment of retinal hemorrhage, thrombosis of the veins, choroiditis of an infective nature, optic neuritis, glaucoma, corneal ulcers, gonorrheal ophthalmia and infected wounds of the eye.

Vistosan 2 is used in the treatment of iritis, acute and chronic, irido-cyclitis and atrophy of the optic nerve.

My own experience with vistosan has been of short duration, but the results I have obtained have been very gratifying and I am thoroughly convinced of its usefulness in the treatment of eye diseases, especially those of an infectious nature. It is therapeutically more valuable than milk and possesses none of its disadvantages.

I have never seen any unpleasant reaction whatever from its administration, neither local pain, inflammation, swelling, nor any general disturbances, such as a chill, dizziness, headache or a feeling of malaise.

I have only noted a mild focal reaction in the eye, which was characterized by an increase of tears, relief of pain and arrest of inflammation.

It is said, however, that the injection is occasionally followed by a rise of temperature, which in no way interferes with its therapeutic action, but I have never seen a rise of temperature in any of my cases.

In serious corneal ulcers, iritis and irido-cyclitis, the pain is nearly always removed within 24 hours after the first injection, and the more acute the condition, the more prompt, as a rule, is the relief of pain.

In infected traumata of the eye the pain is

usually relieved by the first or second injection.

I have seen ulcers of the cornea which continued to spread and which resisted all other treatment respond promptly to vistosan, with relief of pain, arrest of inflammation and repair of the ulcer.

In iritis I have seen pupils, which failed to dilate satisfactorily in spite of the use of strong mydriatics, enlarge promptly, iritic adhesions give way and the exudate become absorbed after one or two injections of vistosan.

In all serious cases of ocular inflammation, infected tonsils, abscessed teeth and other foci of infection should be removed when possible.

Atropine, dionin, hot or cold applications and other local remedies, when indicated, should be used, and in all except mild cases the patient should be confined to bed in a dark room.

It is my earnest belief that we have in vistosan a milk protein remedy free of all of the objections of crude milk, and that we should welcome it as a valuable aid in the treatment of eye diseases.

SIAMESE TWINS.*

By JOSEPH J. MUNDELL, M. D., Washington, D. C.

The case report of Siamese still-born twins at the fifth month is as follows:

Mrs. X, age thirty, consulted me in June, 1930, for attendance upon her pregnancy and confinement. Her family and past history were irrelevant. She was healthy, well developed and well nourished. There were no previous pregnancies. Her last period was in April, 1930, and examination revealed the uterus to be enlarged to about the size of a two months' pregnancy with no abnormalities in the pelvis. Blood pressure and urinalysis were normal and Wassermann was negative. With the exception of a slight bloody show on July 8th, the pregnancy proceeded perfectly normally in every respect until on the morning of September 11th when the membranes ruptured and that night she miscarried. The united twins and single placenta were expelled spontaneously. They presented by the four feet. Except for the fusion at the abdomen from the pubis to the xyphoid they were apparently well developed females.

The mother, but for a low grade fever for a few days, had a normal convalescence.

There is little of practical interest from an

obstetrical viewpoint in fused twins except they are so very uncommon, not more than three or four dozen cases in the world's medical history having been born alive at term and gone on to maturity. Not a single instance is recorded of a prenatal diagnosis of the fusion. Their chief interest centers around an academic consideration of the cause, and even to this modern age it is unsolved. Mention of double monsters is made in medical annals of the earliest antiquity and ludicrous and extravagant explanations have been presented. In early times it was thought to be a diabolical ministration of the Gods for the sins of the day. That lunar influences were supposed to be exerted is seen, for one meaning of the word monster is moon calf. By many it was held to a hybrid resulting of carnal knowledge of the mother with an animal. Belief in maternal impressions are prevalent even to this day and age. Credulity and superstition have never been the peculiar possession of the lower type



of civilization only. The famous Siamese twins were not permitted to be exhibited in France for fear of maternal impressions. Only recently a well-known obstetrician received a letter from a fellow practitioner asking if it were possible for a woman to give birth to a dog.

De Lee, in his latest edition, says that,

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though he does not hold to the belief of maternal impressions, yet he does think that shock and worry may produce vascular and nutritional disturbances in the endometrium which may seriously affect the growth of the ovum, simply a dressing up of the phraseology of the ancient belief.

The modern scientific explanation for the occurrence of monsters is divided into two main theories. One school, notably led by Stockard and Lewis, believes that it is due to pathologic metabolism of the parents. In animal experimentations they have produced malformations by treating ova with magnesium chloride, alcohol, ether and other agents. Another theory propounded by Mall, after extensive search, is that the monstrosity is due to a normal ovum having a faulty implantation in the uterus. He states that in microscopic stages human monstrosities are unknown. And so among zoologists the battle wages, each side having equally ardent proponents and opponents. Suffice it is to say the question is still unsettled.

1616 Rhode Island Avenue, Northwest.

ENTEROCOCCUS PERITONITIS AND PLEURITIS.

By FREDERICK W. SHAW, M. D., Richmond, Va.
Department of Bacteriology and Clinical Pathology,
Medical College of Virginia.

Infections due to the enterococcus appear to have been seldom recognized in this country. DeVel and DeGowin,¹ in reviewing the literature on these infections, did not cite a case from this country.

The enterococcus was first described by Thiercelin,² in 1899, and was considered a normal inhabitant of the gastrointestinal tract. Later, he isolated it from pus from the meninges in two cases of cerebrospinal meningitis and from the pus from suppurating appendicitis. The organism was described as somewhat pleomorphic, sometimes appearing as a lanceolate diplococcus similar to the pneumococcus and sometimes as a streptobacillus resembling chains of diplococci.

Houston and McCloy³ found the enterococcus in a variety of conditions which they classified into the septicemic group, the trench fever group and the myalgic group. Enterococci were isolated from the blood, urine and sputum in a number of these cases.

Tricoire⁴ summarized the cases in which the enterococcus had been found. These condi-

tions were as follows: gastro-enteritis and mucous colitis in children, "intestinal grippe," infections of the biliary tract, appendicitis, peritonitis with associated scarlet fever, in the blood of a patient with appendicitis, osteomyelitis, urethritis, respiratory infections, cardiovascular infections, arthritis, and meningitis.

Fidler⁵ reported a case of septic enterococcus polyarthritis.

DeVel and DeGowin^{1c} reported a case of peritonitis in a child. The peritoneal fluid showed a gram-positive diplococcus and diplostreptococcus. The organism was first mistaken for a pneumococcus.

The year 1929 brought one report of a case with destructive epiphysitis of the right femur due to the enterococcus, by Manfredi;⁶ enterococcus infection simulating endocarditis lenta, by Tidow;⁷ a fatal case of myocarditis with enterococci, by Duvernay and Gerbay,⁸ and a case of septicemia with slow endocarditis caused by the enterococcus, by Cadi.⁹

There is considerable variance of opinion as to the entity of the enterococcus. Most bacteriologists consider the enterococcus identical with the *Micrococcus ovalis* of Escherich and the *Streptococcus fecalis* of the English and American workers. Most of the textbooks on pathogenic bacteria in this country do not mention the enterococcus.

Bagger¹⁰ isolated and studied 92 strains of the enterococcus from peritonitis and 58 strains from normal intestines. He found them to be gram-positive diplococci in the body, while in fluid mediums they were short chains. The enterococcus grew well on ordinary mediums and was a facultative anaerobe. It grew well in sterile ox bile with 1 per cent peptone and was exceptionally resistant to heat, withstanding 60° C. for one-half hour. Indol was not produced. Gelatin was liquefied by 10 per cent of the strains. All of the strains fermented (with acid production, but no gas) dextrose, mannose, galactose, mannite, maltose, levulose, lactose, sucrose, trehalose, dextrin, glycogen, salicin, amygdalin, and glycerin. None of the strains fermented dulcitol, adonite, inulin, or starch. They varied on sorbite, arabinose, rhamnose, xylose, and raffinose. He found the organism to be moderately pathogenic for rabbits and mice, but not for guinea-pigs.

Dible¹¹ in studying aesculin fermentation and hemolysis by enterococci, tested 247 strains of streptococci from various sources, using the

medium of Harrison and van der Lack (peptone 1.5 gm., sodium taurocholate 0.5 gm., aesculin 0.1 gm., ferric chloride 0.05 gm., water 100 c.c.). He found 116 to be aesculin positive and heat positive (resist 60° C. for fifteen minutes); 90 to be aesculin negative and heat negative; 31 to be aesculin positive positive and heat negative, and 10 to be aesculin negative and heat positive. He concluded that the aesculin fermentation seems to be very little more than an indicator for Weissenbach's criterion.¹² Dible further found that most of the heat resistant strains (enterococcus) were non-hemolytic, and concluded that the enterococcus is typically a non-hemolytic organism, though some strains when freshly isolated show pseudohemolysis under suitable conditions.

The organism isolated from the fluid in the abdomen and pleural cavity of the case herein reported appeared as diplococci on smear from the fluids. They appeared as diplococci and short chain streptococci in liquid cultures. On rabbit blood agar plates, the colonies appeared quite similar to streptococcus colonies, at first, but grew to be somewhat larger, and later became opaque and of a whitish color. A green ring formed around the colonies, thus differing from the enterococcus reported by DeVel and DeGowin^{1,c}. The organism was not bile soluble and was heat resistant. It produced acid, but no gas, in lactose, mannite and salicin; gelatin was not liquefied; milk was coagulated.

REPORT OF CASE

A. B. S., white female, single, age twenty-two years, was admitted to Memorial Hospital, October 3, 1928, complaining of pain in the back and right side. This condition had existed for two days.

Examination showed a well nourished, rather oedematous, young woman with marked dyspnoea. There were a few rales in the bases of the lungs. The heart was slightly enlarged and the sounds were clear. The rhythm was regular. There were no murmurs. The abdomen was distended with fluid and there was oedema of the upper and lower extremities.

The blood count showed: erythrocytes 3,880,000; hemoglobin 64 per cent; leucocytes 25,600 with 98 per cent polymorphonuclears.

Examination of the urine: cloudy; acid; sp. gr. 1.010; albumen abundant; sugar and acetone negative. Pus 4 plus; erythrocytes few; hyaline and fine granular casts few.

The temperature ranged from 101° F. to 103.8° F.

On October 14, 1928, dulness was elicited at the base of the right lung and the breath sounds were suppressed. There was a friction rub above this area.

On the fifteenth there was continuous vomiting of bile-colored fluid.

The patient died at 9:35 A. M., October 16, 1928.

Postmortem Examination: The peritoneal cavity and both pleural cavities contained a seropurulent fluid exudate, approximately 2000 c.c. being present in the peritoneal cavity and approximately 500 c.c. in each pleural cavity. Smears of the exudate in both thorax and abdomen revealed a gram-positive diplococcus. Lymphoid hyperplasia was present. There was pronounced fatty degeneration of the liver. The kidneys showed interstitial oedema, scattered foci of interstitial round cell infiltration; glomeruli showed but little injury, except for thromboses in a few with adhesions to Bowman's capsule; tubules in general were dilated, containing cellular debris, and were lined by partly degenerated epithelium. In sections stained with scarlet red a large amount of fat was seen in the tubular epithelium, for the most part filling the cytoplasm and obscuring the nucleus. There was passive congestion and parenchymatous degeneration of all organs. No focus of infection was discovered.

COMMENT

The addition of another case of parenteral enterococcus infection to the literature is important in that it shows that this condition is not, perhaps, as rare as the small number reported would indicate. The common mistake is, undoubtedly, the tendency to regard this organism as an atypical pneumococcus or a streptococcus. In this case the organism was first reported as a streptococcus viridans, but the character of the growth on blood agar plates two days later led to further investigation of the growth with the results reported above.

My thanks are due Dr. Charles Phillips for the autopsy notes.

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ARACHNIDISM—REPORT OF TWO CASES.

By JUDSON T. VAUGHAN, B. A., M. D., Ashland, Va.

Arachnidism, or poison from a spider bite, is considered rather rare in this section of the country. Dr. Emil Bogen, of the Los Angeles General Hospital, has collected one hundred and fifty cases in the period from 1916 to 1926. In Virginia within the past few years a few cases have been reported, several of which had a fatal termination. The first case reported was by Dr. Adner Hopton, Clinton, N. C., one hundred years ago and the first death occurred in the same neighborhood and was reported by Dr. John M. Dick, in "*Insect Life*," January, 1889.

The insect causing the trouble is the *Lacrodectus Mactans* or commonly called the Black Widow. It is coal black in color with red, yellow, or red and yellow markings. These markings consist most constantly of one the shape of an hour glass on the ventral aspect of the abdomen. The female of the species is the only one that is poisonous and is often an inch in length. The male is about one-fourth the size of the female and is often devoured by the female, hence the name Black Widow. It is also called the shoe button spider, the hour glass spider, and the T-dot spider. This spider is quite common in the Southern States but has been reported as far north as New Hampshire.

The belief in the poisonous nature of this spider is of widespread knowledge. Dr. C. Mart Merrian has made the following statement, "Whenever I have questioned Indians about the spider in California, they uniformly rank it with the rattlesnake in poison. To poison their arrows they mash the spider and rub the points of their arrows in it. Sometimes this is the only poison used, and at other times it is one of several things used to make the poison."

A good many of the cases have occurred in outdoor privies and the insect is usually found in old stumps, under stones or wood that have

lain for a long time, under shocks of wheat or oats, and in dark corners of old buildings. The site of the bite shows no local reaction, no swelling, pain nor tenderness, and the constitutional symptoms begin in from one-half to one and a half hours. The symptoms reach their peak in a few hours and then gradually subside.

I have only seen two cases and, strange to relate, they occurred within ten days of each other although eight miles apart. In conversation with various men in the profession, I find that the cases are comparatively rare; many men practice a lifetime without seeing a single case.

V. T., male, age sixteen years, was apparently in perfect health. While in the living room of a country farmhouse, he felt a sudden prick on the left arm, at 7 P. M. The arm was numb for a second and then was normal. No insect was seen. At 7:30 P. M., patient began having pains in the lower abdomen which increased in severity. By 8 P. M. he had board-like rigidity of the entire abdomen with general tenderness, nausea, and vomiting and presented a picture of a patient acutely ill. There was no temperature and a pulse of 70. Epsom salts had been taken before I saw the patient. Hot applications applied to the abdomen gave some relief and the pain and rigidity gradually subsided. The next day the boy felt good except for pains in the knees which lasted several days. Questioning him the day following the acute pain he remembered being bit. This established my diagnosis. The onset was too rapid and the tenderness and rigidity not enough localized for any surgical condition.

R. S., female, age fifteen years, was bit on the right gluteal region while in a pit privy away from home, at 1:30 P. M. Immediately the right leg began to pain her slightly, the pain increasing in severity, and at 3 P. M. she began to have pains in the abdomen. When seen at 4 P. M., patient was in intense pain with board-like rigidity of the abdomen but most of the pain in the right thigh. The pulse was 80, temperature 98. She had been given whiskey and soda. A hypodermic of a fourth grain of morphine and one hundred and fiftieth grain of atropine eased the pain but did not give relief. A second hypodermic of morphine in thirty minutes gave relief. She had no pain that night and slept well. The next day she

was nauseated and vomited several times but had no rigidity or tenderness of the abdomen. For several days she complained of vague pains throughout the body but these gradually disappeared.

Treatment of this condition consists of relieving pain and combating the acidosis caused by vomiting and starvation. Morphine is needed for the pain, glucose and saline for the acidosis.

The deaths reported have largely occurred in children. An antibody is formed in the body of the patients bitten and has apparently been used successfully in the treatment of the acute cases.

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COD LIVER OIL: ITS VITAMINS AND THOSE OF SOME OTHER FOODS.*

By JOHN C. ECKHARDT, M. D., Washington, D. C.

This is rather a presentation of a number of thoughts, than a definite talk on any one subject. Not being a biological chemist, nor a specialist in the present accepted meaning of the term (pediatrics being general medicine as practiced among children) may I paraphrase Voltaire and advise you to be unconvinced and uncomfortable rather than convinced and ridiculous.

First, cod liver oil promotes growth, increases resistance to infection, prevents and cures some varieties of ophthalmia, increases reproductivity and lactation up to the normal, prevents and cures rickets. All of this is due to vitamins A and D.

Now butter contains both of these substances,—about one-twentieth of the vitamin A and one-two-hundredth of vitamin D, so that the average child getting his normal share of butter is getting considerable vitamin A and D. If to this we add cod liver oil, and if we are not meticulous in the care of the cod liver oil, allowing it to become rancid, then we are stepping over the danger line as far as fatty acids are concerned. Our U. S. Pharmacopeia fixes the fatty acid content of cod liver oil at not over 1.41 per cent, whereas cod liver oil prepared by the rotting process contains 12 to 14 per cent, so that in cod liver oil that is not well refrigerated the fatty acid

content rises. Cod liver oil is rated 97.7 per cent on digestibility, no other food approaching it. If cod liver oil is kept in a dark container at 70 degrees F., the vitamins are retained and the fatty acids do not increase. On the other hand, if exposed to the light and kept in a warm place, not only do the fatty acids increase, but vitamin A is markedly diminished if not lost altogether. The vitamin D from cod liver oil does appear in mother's milk. Sunshine or the ultra-violet ray will to a large degree take the place of vitamin D, making it very apparent that the really essential vitamin in cod liver oil is A.

In spite of or because of these factors, I strongly urge a good grade of cod liver oil well kept and in doses not exceeding one teaspoon daily, until puberty.

SUNSHINE: Why do tropical peoples have dark skins? To protect them from sunshine. Therefore, it must be possible to get too much sunshine. The skin coloring or sunburn is due to a pigment called keratin. Whether the sun changes the character of the keratin or whether the keratin is increased, the biological chemists cannot say at the present time. Certain it seems that a good coat of tan must protect or keep out the beneficial rays of the sun. If we want the maximum benefit of the sun, i. e., increase metabolism, fix calcium in the blood stream, and so forth, we will allow only short exposures to the sun and stop just short of tanning.

Back to vitamins once more. Vitamin A promotes growth, increases resistance to infection, prevents and cures certain forms of ophthalmia, and increases reproductivity and lactation. This vitamin occurs in corn, beans, carrots, sweet potatoes, butter, lettuce, cod liver oil, and milk. If these vegetables are cooked in the presence of atmospheric oxygen, the vitamin A content is tremendously decreased or entirely lost. How many of us have our vegetables cooked in airtight containers to save this most necessary vitamin?

Many people add soda to their cooking vegetables to make them more green, but soda destroys vitamin B, the vitamin that increases appetite and digestion, promotes growth, and protects against polyneuritis and pellagra.

Now just why do we cook green vegetables any way? Certainly not because they must be cooked because there are too many green vegetables that we eat without cooking. I

*Read by invitation before the Loudoun County Medical Society at its regular meeting in Purcellville, September 9, 1930.

believe that the really great factor in cooking green vegetables is to sterilize them. This has been done other ways—and certainly we run no risk of destroying the vitamins.

Speaking of cooking makes it necessary for me to mention several interesting facts that have come to my attention during the past six years. I have abandoned the laborious preparation of cream of wheat and other cereals by cooking two, three, and sometimes four hours, and cook them only thirty minutes, with so far not only no bad results but evidently no difference in the ability of the child to take care of those cereals so prepared. You have most likely, and mothers have most certainly, sworn at this procedure, and those so unfortunate as to have a child with a pylorospasm who must be fed a thickened formula prepared with rice flour are to be pitied. Personally, I think this pure bunkum and to back it up I will say that I have not had one case of pylorospasm go to operation in the past six years and have had no mortality from this condition. Perhaps I am lucky or my experience is too limited. It embraces well over 100 cases.

I believe some of these procedures belong in the archives of time, along with our top milk formulas of not so many years ago, when it needed an expert mathematician to figure out formulae.

If I can leave one idea it would be this: Simplify and debunk child feeding and strive to develop a dietary that needs no peaks, such as we have exemplified in orange juice, cod liver oil, wheat germ, rice polish, and so forth.

1835 Eye Street, Northwest.

A CASE OF UNILATERAL EXOPHTHALMOS FOLLOWING THYROIDECTOMY.

By JOHN PAUL EARNEST, M. D.,
Attending Physician at The Central Dispensary and
Emergency Hospital,

and
W. WARREN SAGER, M. D., F. A. C. S.,
Washington, D. C.

Unilateral exophthalmos occurring in case of exophthalmic goiter before operation is not rare, and many cases occur as one of the first symptoms of the disease. The occurrence of this condition following thyroidectomy, is, however, a very unusual condition and may cause confusion, the presence of the pre-existing thyroid disease being disregarded.

Zimmerman, in reporting a series of eight cases in which exophthalmos developed or be-

came worse following operation, reported a case of unilateral exophthalmos developing after operation.

The following case report is that of a woman fifty-four years of age who developed a unilateral exophthalmos following a thyroidectomy in which sufficient thyroid tissue was removed to lower the basal metabolic rate to normal and relieve, we believe, all clinical symptoms of the disease.

The patient, a government clerk, was first examined September 4, 1929. She gave a history of the onset of her symptoms in March, 1929. The chief complaints were nervousness and loss of weight, having lost fifty pounds in weight during this period. She was extremely nervous, emotionally unstable, and gave a history of suffering more than usual from the heat of the summer. Weakness of the knees and cardiac palpitation were also given as symptoms.

Physical examination revealed a symmetrically enlarged thyroid with bruits over the superior poles of the gland. The quadriceps femoris muscle was weak. There was a definite tremor of the fingers of the extended hand. The heart rate was 100, the systolic blood pressure was 160 and the diastolic pressure 80. Her temperature was 98.3. No eye signs of exophthalmic goiter were present.

A moderate anemia was present, the red cell count being 3,872,000. A faint trace of albumen and a few hyaline casts were present in the urine. A Wassermann test was negative. A basal metabolic rate taken September 25th was plus thirty-three, after having received Lugol's solution for ten days.

She was admitted to the hospital on September 15th, was given Lugol's solution in ten minim doses, three times a day and a high caloric diet.

Thyroidectomy was done on September 30th. The thyroid was symmetrically enlarged and very vascular. It was enlarged to four or five times the normal size and gave every appearance of the thyroid in exophthalmic goiter, which was later corroborated by the histological study. Adenomata were not found.

Lugol's solution was given after operation in ten minim doses three times a day for a period of six days and was then given in doses of ten minims once a day over a period of two months. She returned to work on December 1, 1929.

She obtained relief of all of her symptoms in two months' time. Her weight increased and she "felt fine." A proptosis of the right eye was first noticed in March, 1930. Lugol's solution was again advised but was only taken for three weeks, a dose of ten minims being taken daily.

During the months of June and July the patient lost six pounds in weight, which frightened her. A basal metabolic rate taken August 4th gave a reading of plus four. Examination at this time revealed a slight nervousness evidenced in an inclination to giggle and in purposeful but useless movements. This was attributed at the time to the heat of the summer which was very severe and to a nervous strain the patient had been under in her home. The proptosis of the right eye was marked and complained of bitterly by the patient.

The exophthalmos was present in October, 1930, but was not as severe as in August. A metabolic rate taken on October 19th was zero. Her weight was one hundred and twenty-four pounds during the summer and one hundred and thirteen pounds before the operation.

The mechanism causing exophthalmos in exophthalmic goiter, either bilateral or unilateral, remains unknown.

The most interesting fact in this case history is the development of the exophthalmos in a patient who was relieved of all other symptoms of exophthalmic goiter, except for a short period in midsummer when her slight loss of weight and nervousness might be explained on the basis of a small amount of toxic secretion from the thyroid gland, or attributed to the heat which was severe, and to a very unpleasant domestic situation. As this period followed the exophthalmos by three months, and could easily be explained by the heat of the summer and unpleasant domestic situation, the cause could not be determined, though we concurred in attributing the loss of weight and nervousness to the heat and unpleasant home surroundings.

This patient, contrary to the cases reported in Zimmerman's series, received iodine after operation for a prolonged period. Whether a still longer period would have prevented the occurrence of exophthalmos cannot be determined. It is possible, as the cases reported by Zimmerman showed no other symptoms of exophthalmic goiter following operation, and there was little evidence in the present case,

that the etiologic factor causing the stimulation of the thyroid in exophthalmic goiter may be directly responsible for the exophthalmos.

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INTRAVENOUS UROGRAPHY.*

By A. A. CREECY, M. D., Newport News, Va.

During the past year a valuable addition to the armamentarium of urology has been made by the introduction of an intravenous drug known as uroselectan which is excreted by the kidneys in sufficient concentration to cast a shadow of the entire urinary tract on X-ray plates. The substance was synthesized by Professors Binz and Rath and clinically applied by Swick in the Clinics of von Lichtenberg and Lichtwitz, of Germany. The chemical name is sodium-2-oxo-5-iodo-pyridine-N-acetate. It has an iodine content of 42.2 per cent in a combined state and no free iodine is liberated in the body or during its excretion. It was introduced in American Clinics during 1930 and has been reported on by many of these in recent months with favorable results. A summary of the report of Braasch and Bumpus to the Council on Pharmacy and Chemistry of the American Medical Association is as follows: "As a substance for injection through the ureteral catheter, sodium-2-oxo-5-iodo-pyridine-N-acetate is the best material so far obtained; used intravenously, it often helps in the diagnosis when ureteral catheterization is impossible; however, it is not secreted in the same concentration by all kidneys of apparently equal function and hence is at times disappointing; as a substance for renal function test, its worth is not yet proved."

Uroselectan is a white crystalline substance, readily soluble in water. Forty grams is the dosage for a normal adult but lately it has been advised to increase this to sixty grams to obtain clearer delineation of the urinary tract. The substance is administered to children in correspondingly smaller doses. Uroselectan is dissolved in doubly distilled water to a volume of 110 c.c., filtered, and then sterilized in the autoclave for twenty minutes. The solution then has a total volume of approximately 100 c.c., and is administered immediately on cooling. It should not be allowed to stand. It

*Read before the Seaboard Medical Association of Virginia and North Carolina, in Elizabeth City, N. C., December 2-4, 1930.

should be given slowly and to accomplish this I have preferred to use a very small bore intravenous needle on a 50 c.c. syringe, giving half the dose in one arm and, after refilling the syringe, injecting the vein of the other arm. The syringe method is preferable to gravity to avoid the possibility of foreign body reaction. Following the intravenous administration, the patient is taken to the X-ray room so that the first picture can be made within fifteen or twenty minutes. Radiographs are again made at forty and eighty minutes after injection and again at longer intervals if indicated by diminished function or in the presence of obstruction. Better films are obtained by compression with a dilated rubber bag over the bladder five or ten minutes before exposure. In normal cases 85 to 95 per cent is excreted within eight to twelve hours and from 45 to 65 per cent is excreted during the first two hours and the best urograms are therefore obtained in this interval. The clearness and value of resulting pictures depend on several factors. Non-functioning kidneys cast no shadows and organs with impaired function cast correspondingly fainter shadows. Lack of visualization may mean a non-functioning kidney, temporary inhibition or congenital absence. The dynamics of the pelvis and ureter must be considered for, if the radiograph is made during systole or contraction, the parts will not be so well filled as they are in diastole. The best results are seen in those cases of obstruction as the drug is then present in greater concentration. Cystograms are usually very well shown, outlining the bladder clearly and showing filling defects when present, thus making this method most ideal for diagnosis of bladder lesions. Compared with pyelograms made in the usual manner, those obtained with uroselectan are not so prominent and fail to delineate the outline of the minor calices as well. For this reason, early lesions of tuberculosis and tumors may be overlooked by this method. Ureterograms obtained with uroselectan are usually poorly defined unless obstruction is present. The drug passing through the kidney parenchyma intensifies the kidney shadow giving an idea of its outline, size and position.

The method is of particular value whenever mechanical instrumentation is dangerous or impossible as in cases of urethral stricture, prostatic hypertrophy, urinary fistula and impassable lesions of the ureters; also in children

and in those who refuse cystoscopy. However, we must not let our enthusiasm for a new procedure lead us to accept its findings as absolute. A majority of urological diseases are caused by two factors, obstruction and infection. Uroselectan will usually indicate the former but it will not tell us the degree of infection nor isolate the offending organism and no urological diagnosis is complete unless this is done whenever possible, nor can we plan a sound surgical attack without this knowledge and that of renal function. It is true the latter can be estimated with the secretion of the dye but the older methods are more familiar and comprehensive to us at present. The surgery of a simple hydronephrosis may be quite different from that of a badly infected one, and a colon bacillus pyelitis is treated quite differently from renal tuberculosis. Uroselectan should be very valuable in cases of prostatic hypertrophy. One reason for our present-day success in these cases is the thorough study we afford them before operation. However, they are not particularly suited to cystoscopy except for inspection of the prostate and bladder, as it is frequently impossible to catheterize the ureters to obtain pyelograms and subjects them to unnecessary reactions. But these cases generally have been sick for some time and the kidneys have been working against a heavy load so that back pressure changes in those organs have taken place. It would be nice to visualize these changes before operating; to see just how much the pelves and ureters have dilated; whether one kidney has greater damage than the other or has become inactive, and whether or not there are any congenital abnormalities. This may be done very simply during the pre-operative care of the patient without overtaxing him, by the use of uroselectan, thus affording us a visual knowledge of the urinary tract in addition to that of its function. In cases of prostatic hypertrophy this may become as routine as blood urea determinations.

The method is applicable to urological diseases of childhood as physicians are somewhat hesitant in referring these cases for cystoscopy which usually must be done under general anesthesia. Uroselectan may be administered, however, with little inconvenience to the child and the radiographs obtained may be of great value in reaching a diagnosis easily. Hyman has reported a series of twenty-two cases in children, ranging from six months to twelve

years of age, with no toxic reactions and with satisfactory results. It is valuable for the late study of the kidneys and ureters in children in whom the ureters have been implanted in the sigmoid for exstrophy of the bladder. Patients with extremely irritable bladders, such as we encounter in renal tuberculosis, lend themselves well to this method.

There are few contraindications for the use of the substance. As the drug must be almost entirely eliminated by the kidneys, it is, of course, unwise to give it in the face of impending uremia. Blood urea determinations and renal function tests should be done before applying it in questionable cases but unless these tests are very poor, the drug may be given safely. One of my cases had a blood urea of 64 mgm. per 100 c.c. but showed no signs of reaction. von Lichtenberg, Swick, Kretschmer, Hyman, and others have used it many times without severe reaction. I have seen reference to only one case of fatal reaction. During the injection the patient sometimes experiences sensations of warmth and thirst and the face becomes slightly flushed. A few complain of nausea and feel a slight pain in the arm. If unpleasant reactions occur, they are more liable to do so during or soon after the injection.

I have used the drug in only seven selected cases as follows: one case of unilateral hydro-nephrosis complicated with cerebrospinal lues; one case of chronic cystitis with retention and locomotor ataxia; one normal case for diagnosis; two cases of prostatic hypertrophy; one case of bilateral renal tuberculosis with prostatic hypertrophy and double ureter and pelvis; and one case of bilateral pyelonephritis in a fourteen year old boy. There were no reactions. The resulting urograms were disappointing compared with the older method and at first glance seemed to be of little value. However, after studying them more closely, I must say they aided me in each instance in handling the case, especially when they were considered in light of the history and clinical findings. I think the method is of undoubted value in selected cases. There is apparently little danger of toxic reaction if the drug is carefully given, with a few necessary precautions already outlined in selection of the cases. Its field of usefulness will increase rapidly but it will continue to be used mostly by urologists and roentgenologists for sometime.

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Elizabeth Buxton Hospital.

Correspondence

"Doctors Under Fire."

EDITORIAL NOTE:—The following letter, which up to this writing has not been published, is in reply to a recent Editorial, and is voluntarily prompted by the author because the newspaper in question did not feel it incumbent to make any explanation of its unwarranted attack upon the medical profession, though its management was personally seen and consulted several times by the President and other members of the State Society.

The facts are that the Editorial was apparently in the nature of a book-review, but was interlarded with random deprecatory allusions to the medical profession, which must have been the personal views of a substituting writer, who at the time was acting for the Editor, who was sick at home, and attended by a physician.

At any rate, it seems but just to conclude, that in the attempt to be fair to one person's views, the substituting editor, the newspaper management was willing to be unfair to the views of many, without further comment.

The only courtesy extended to the complainants was an offer to open the newspaper columns to a discussion of the subject by physicians, but this was declined.

FEBRUARY 3, 1931.

TO THE EDITOR OF THE TIMES-DISPATCH:

There appeared in your issue of December 26th, last, an editorial under the title "Doctors Under Fire." The editorial was somewhat in the form of a review of T. Swann Harding's recent book, *Fads, Frauds and Physicians*. Even if only incidentally, some pretty hard blows were directed towards the medical profession. Perhaps it is the modesty of members of the medical profession or the futility, in their opinions, of newspaper controversy when led by themselves, that explains the silence of the doctors of the state in this matter.

It is not my purpose to attempt to defend the doctors on the one hand nor on the other

to take sides with Mr. Harding's point of view, although I think the use of the word "leeches" in the opening paragraph of your editorial without an explanation of its historical significance was unfortunate. In view of the discussion provoked by Mr. Harding, I believe it will be of especial interest to the readers of the *Times-Dispatch* to hear of certain steps the medical profession of this state have been quietly but thoughtfully taking which appear to be of far-reaching importance both to the profession and to the people of Virginia.

There came from the practitioners of the state themselves a little over three years ago a movement to provide for members of their profession opportunities for continuing their education while engaged in practice. The merits of great medical centers in this and other countries for those who could profit by this form of after-graduation instruction was recognized, but methods for bringing instruction to the "door steps" of the physician was the new aim. Progress both in theory and practice in the medical sciences is so rapid that it was recognized that whether the doctor graduated twenty-six years ago or two years ago, he was soon out of touch with advancing thought, even concerning the treatment of common diseases, unless study was continual. The ideal was the conception of medical education as a process life-long in extent and the provision for taking the opportunity for continuing education to every physician in the state.

The rapidity with which the idea of post-graduate education has spread among the members of the profession in this state is noteworthy. The Medical Society of Virginia at each of its most recent annual meetings unanimously indorsed the post-graduate education idea and took steps to put it into operation in some practical form. Excerpts from minutes of the recent meetings of the Society and from the writings of Society officials will doubtless best reveal the profession's interest and determination in this matter:

"* * * The Medical Society of Virginia, by its action last year, assumed the responsibility and recognized its very definite obligation to its members to assist them in this continuing medical education. Furthermore, it has made this its continuation work, and it is believed as a professional movement, it is the greatest single constructive contribution that organized scientific medicine can make to professional practice * * *."

At the same meeting, the Department of

Clinical Education, a division of the Medical Society, reports that

"Continuation medical study after graduation is, and has been, and will be the main work of this Department, for as the profession keeps itself educated so will its standards and successes continue to be more perfect and more permanent. * * * Types of diseases change, clinical methods vary, and a new therapeutics is always to be studied * * *."

The final message of the retiring chairman of the Society's Department of Clinical Education, who is now the President of the Society, issued since the meeting in Norfolk, is devoted almost exclusively to the subject of post-graduate education:

"At the last annual meeting in Norfolk," he writes, "the principle of adult education as related to the profession of Medicine was definitely established * * *"

"Contributing very greatly to the complete success of this plan in the future was the announced hearty cooperation of the Medical Department of the University of Virginia and the Medical College of Virginia through their representatives * * *"

"* * * The necessity for Continuation Education for Practitioners is officially recognized and endorsed again after a year's experience. * * * It is something we all need if we are to keep in touch with the trend of modern medicine * * *."

"All graduates, specialists included, need this 're-conditioning process.'"

The new chairman of the Society's Department charged with responsibility of carrying on this new form of instruction is equally interested and optimistic:

"We are determined," he writes in his first message, "to carry on the work (of post-graduate education), systematically and cheerfully, going if possible, into each of our Councilor Districts. The State Society is well organized and more of a unit in purpose than ever before. * * *"

"It is encouraging to know that we have already received requests for Clinical Meetings in several sections where they have not been held before, and volunteer offers from outstanding physicians to take part in these meetings."

In recent weeks a joint committee composed of an equal number of representatives from the Medical Society of Virginia, the Medical College of Virginia and the Department of Medicine of the University of Virginia has been appointed to assist the Society in formulating and putting into effect specific educational programs in Virginia in the field of post-graduate medical education.

Thus a well organized program for post-graduate medical education, inaugurated and sponsored by the physicians of this State, is well underway in Virginia. It involves the co-

operation of the three institutions most responsible for medical education and practice, the Medical Society of Virginia and the two state medical schools. Plans contemplate taking competent instruction into every section of Virginia by a variety of methods, including lectures courses, clinical demonstrations and extended medical library service. Hospitals of the state have offered their cooperation and facilities.

A distinguished scientist, not a member of the medical profession nor of the Medical Society of Virginia, observing the progress of the Society's efforts at post-graduate medical education stated that in his opinion the Society was taking the most forward step which it has ever made in its entire history.

G. BASKERVILLE ZEHMER,
Director, Extension Department,
University of Virginia.

Dr. Fishbein's Viewpoint of the Harding Book.

RICHMOND, VA.,
FEBRUARY 12, 1931.

TO THE EDITOR:

A few weeks ago, the *Richmond Times-Dispatch* carried an editorial which was inimical to the medical profession in its discussion of a book recently published by T. S. Harding. I understand that a committee of physicians interviewed the editor and he has promised to write a more favorable comment on modern medicine in the near future.

In the meantime, I wrote to Dr. Fishbein for a copy of his review of this book. It occurred to me that possibly this review would be of interest to the medical profession and you may care to publish it in an early issue of the VIRGINIA MEDICAL MONTHLY. This article was published recently in the *Saturday Review* and I am enclosing it for your perusal.

WM. H. HIGGINS.

"FADS, FRAUDS AND PHYSICIANS"

By T. SWANN HARDING

REVIEWED BY MORRIS FISHBEIN, M. D.

"Mr. T. Swann Harding is a chemist. It is a pity he never completed a medical course and practiced clinical medicine. Had he had the responsibility and with it, the experience of taking care of a few patients, his point of view would, of course, have been entirely different from that which he adopts in his book. He reflects here neither the views of a competent investigator, a sociologist, a political economist, or an uninformed patient. He reflects rather the views of a person who has read

a vast amount of medical literature and economic contributions in the field of medicine who is having a terrible time in digesting what he has taken. The output is in the form of what physicians call 'indigestible residue.'

"Mr. Harding apparently cannot tolerate criticism. One needs merely to have remarked at some time or other, that something said by Mr. Harding was silly or unscientific in order to have Mr. Harding call attention frequently to that fact in an abused, petulant, ironical, and cynical manner. This I found by consulting the references to my name in his index.

"In 'Fads, Frauds and Physicians,' Mr. Harding has elaborated a number of essays contributed by him at various times to various publications. He has had the experience of being turned down by some of the best periodicals in the country and he resents it. On the other hand, his views have been published by several publications known as socially minded in their point of view. From the material thus assembled and with the addition of numerous literary references, he has compiled this tone

"The writings of Mr. Harding are marked primarily by two attributes—he is exceedingly verbose and remarkably uninformed. He accuses medicine as practiced today, of being unscientific in many respects. The accusation he presents as though it were a bolt from the blue. He will not find a single physician to disagree with him, yet he takes it for granted that all physicians will disagree with him. No one knows better than physicians themselves the limitations of their science, but they are not running around in rings shouting about it; they are doing more than anyone else to overcome its limitations. Mr. Harding is inclined to discount the art of the practice of medicine. Any physician of considerable experience recognizes that the art of the practice of medicine, humanity being what it is, is about as important at the present time, as the science. Physicians recognize that the human being consists of both the mind and the body. They realize that the mind controls the functions of the body in many respects. They attempt scientifically to control the mind, in this way differing from metaphysicians, mind healers, and similar empiricists who attempt to control the body entirely by the mind. This does not, however, satisfy Mr. Harding. Being a chemist by trade, he apparently wishes the physician, in his study of disease in the human being, to bring about as certain a response as occurs when silver nitrate is added to a solution of sodium chloride. What a terrible world it would be if that were invariably possible.

"Mr. Harding is convinced that a considerable number of physicians are incompetent. Again, he will find physicians generally agreeing with him. Incompetence in every profession in the United States is a by-word. It represents the youth of our civilization. Thirty years ago there were more medical schools in the United States than in all of the rest of the world. Today the number has been cut to less than one-half, and the standards have been raised to a point which will insure a higher type of scientific physicians for the future. The physicians themselves brought about the reform.

"Unfortunately, with the advance in medical science, an increase in the cost of medical care promptly followed. This was as logical as any step taken by mankind in any other development of human activities. When one improves his living conditions, one expects to pay more for the newer service. When one adds to the old time routine of taking history and making a diagnosis on the history alone, the modern routine of laboratory diag-

nosis, X-ray pictures, cystoscopy, bronchoscopy, and other technical procedures, one must expect to pay more for the improved service. The rise in the quality of the practice of medicine has stimulated a vast amount of discussion of the cost of medical care. To this problem the medical profession is giving more attention than is being given by any other part of the population and the solution of the problem will probably come from the medical profession. It will necessitate savings where they can be made without lowering the quality of the service. The profession will probably resist to the last ditch, any attempt to lower the cost of medical care by lowering the quality of the service or by lowering the standards of the profession.

"Mr. Harding sees the only answer to the problem in complete control of medicine by the state. If such control had been demonstrated in numerous other countries, which have now been experimenting with state control for some ten to twenty years, to be an adequate solution of the problem, the medical profession of this country would probably consent to a similar scheme. Actually, no other country has demonstrated the practicability of supplying high class medical service under government control. The American medical profession is convinced that such service is not suitable to American conditions. Once established, Americans would not tolerate it any more than they tolerate prohibition. The state full-time salaried doctors would attend to the T. Swann Hardings and the intelligent, free-minded and unbaptized would seek out bootleg physicians."

Interesting Medical History.

TO THE EDITOR:

Believing that many members may not see the following article from the *Confederate Veteran* (February issue), and feeling personally that it will be a most interesting and informative contribution for our future medical history records, I am herewith enclosing it for publication.

J. ALLISON HODGES.

Richmond, Va.

February 9, 1931.

The South's Contribution to Medical Science.

By MRS. WILLIAM CABELL FLOURNOY.

[Awarded the Thomas Cathey White Prize at Asheville Convention of the United Daughters of the Confederacy, November, 1930.]

As late as 1848, Sidney Smith asked, "Who reads an American book?" The ink was scarcely dry upon his cynical pen when the use of anaesthesia was discovered by a struggling young physician in Georgia.

The renowned Velpeau, of Paris, had declared that an attempt to prevent pain in surgical operations was nothing less than chimerical. Yet it was only three years after this statement was made that Doctor Crawford Long, of Georgia, then twenty-seven years old, the resection of the superior maxilla. He was a prodigy in his own age, and a prophet of the

performed the first painless surgical operation known to history.

Long before this great event, however, we find the names of gifted Southern men shining as benefactors of the human race; for, though our first century may have been poor in books, it abounded in strong, conscientious, brave men, who, with limited resources, accomplished far-reaching results.

Doctor Phillips, of England, places in his table of statistics the name of Ephraim McDowell, of Virginia and Kentucky, at the head of operators. The *London Medical Review* said: "A back settlement in America—Kentucky—has beaten the Mother Country, nay, even Europe," in recognition of McDowell's skill and courage when, in 1809, he performed, unaided, the first operation ever undertaken for the removal of an ovarian tumor. Forty years after his death, Europe awakened to the fact that McDowell was justly entitled to be called the "Father of ovariectomy," and erected a monument to his memory, as having "contributed more to the alleviation of suffering and the prolonging of human life than any member of the profession in the nineteenth century." Doctors McDowell and Marion Sims, of South Carolina (then in the obscurity of Northern Alabama), laid the foundations of practical gynecology, and brought fame to American medical science in foreign lands.

Doctor Marion Sims, in 1849, while practicing in a small town in Alabama, operated successfully in a case of vesico-vaginal fistula. His skill was later recognized and his methods followed by the profession in New York City, where he established The Woman's Hospital for the free treatment of suffering women. While in Paris, the most celebrated surgeons of France gathered together again and again to see him operate for vesico-vaginal fistula. They gave a dinner in his honor, and he was elected corresponding fellow of the Royal Academy of Medicine, and recommended to the Government for the Legion of Honor.

A few years earlier, Dr. Peter Mettauer, of Virginia, had first conceived the idea of curing fistula, and he was the first on this continent to operate for cleft palate, first to employ iodine in the treatment of scrofula, and among the first in such major operations as amputation of the shoulder, ligation of the carotid, and time to come. He operated eight hundred times for cataract, and even Dudley's record in

"cutting for stone" two hundred and twenty-five times yields to Mettauer's four hundred operations for this trouble. In 1837, he organized a Medical Institute, and was a daring inventor of surgical instruments, making many of them at a local shop with his own hands.

Dudley, of Kentucky, performed the first operation for stone in the bladder, and was called "The great lithotomist." He was also an advanced apostle of asepsis, attributing much of his success to the use of hot water; he strongly opposed bleeding, which was the universal custom at that time.

The writings of Fearne and Erskine, in Alabama, were the first to throw light upon the proper method of treating malaria and malarial fevers. Until their day, the doctors were bleeding and purging until the fever disappeared, and then giving a grain or two of quinine three times a day. But these men advised giving it without regard to preliminary treatment, always in the very beginning, and in sufficient doses to affect the system at once.

In the latter half of the eighteenth century, inoculation for the prevention of small-pox was extensively resorted to, having been introduced into Charleston, S. C., in 1738. Hospitals for this purpose were opened in the different colonies, the first one at Williamsburg, Va., in charge of Doctor James McClurg.* His son, Doctor Walter McClurg, studied medicine at the University of Edinburgh, and attended hospitals in London and Paris. In 1779, he filled the chair of medicine established that year at William and Mary, which was next in time to that of Philadelphia. He was a member of the Federal Convention in 1787, and died in Richmond in 1825, having occupied for fifty years perhaps the foremost place in his profession in America. His essay on "The Human Bile" was translated into every language in Europe.

The earliest known quarantine act was that passed by the General Assembly of Virginia, in 1722, for keeping yellow fever out of the province. In Virginia was established the first institution exclusively for the insane, as well as provision for the care of the colored insane. This marks the beginning of rational treatment of the insane in this country.

Foremost among the triumphs of bacteriology stands the discovery, by Doctor Walter Reed, of Virginia, that the yellow fever germ is conveyed by the mosquito. Thus, it is due to his research work after the Spanish-American War, that the Atlantic seaboard was relieved from this scourge after three centuries of suffering.

Doctor William Bull, of South Carolina, who took his degree in medicine at Leyden, in 1734, was the first native American to graduate in medicine. Ten South Carolinians graduated from Edinburgh between 1768 and 1778, and there were eminent medical men in both Carolinas prior to the Revolution; for many years they led all the colonies in the study of the natural sciences. Doctor Lionel Chalmers, of South Carolina, wrote a treatise on the "Weather and Diseases of Charleston," which is still an authority; while Doctor John Lining's "A Description of Yellow Fever" stands unrivalled for accuracy. To South Carolina's credit are such illustrious pre-Revolutionary Doctors as James Moultrie, Alexander Barron, and David Ramsey. North Carolina gave to the profession, in those early days, Doctor Ephraim Brevard, author of the Mecklenburg Declaration of Independence, Nathaniel Alexander, and Hugh Williamson. In 1790, Doctor A. J. De Rossett, of North Carolina, wrote ably on "Pestilential Fevers."

Louisiana, early in the nineteenth century, produced remarkably able men in the field of medicine. Doctors Penniston, Fenner, Chaillé, and Stone were noted experts in yellow fever, and Doctor Joseph Holt in quarantine and disinfection. Some of the most valuable and indispensable inventions applicable to surgery came from Doctor Greenville, of Texas.

Doctor Paul Eve, in early life a volunteer surgeon in the Polish Rebellion, became a noted surgeon and teacher in Georgia, and is believed to be the first American to have done an hysterectomy. He was professor in several medical schools, and wrote more than six hundred articles on professional subjects.

The first amputation of the hip joint done in the United States was by Doctor Brashear, of Kentucky, early in the nineteenth century.

It is stated on good authority that, prior to 1749, only Doctor Physick, of Philadelphia, had done anything for the improvement of the profession. About this time, however, Vir-

**Editor's Note:*—These names have possibly been confused, as Dr. Walter McClurg was the father of Dr. James McClurg, prominent physician of Williamsburg and Richmond during the Revolutionary period.

ginia produced a brilliant surgeon in William Baynham. His operation for extra-uterine pregnancy, alone, gives him enduring fame. Next to him came Doctor Mettauer, already mentioned, who deserves to rank among the first surgeons of this country, while, as a matter of fact, surgical history gives him mere mention. All of these physicians and surgeons were fonder of the scalpel than of the pen, and they often failed to record their marvelous work performed in a wilderness. They had none of the advertising spirit of today, and seemed intent only upon relieving human suffering. Therefore, in many instances, others who followed them claimed priority in many of these surgical feats.

Most of the medical men referred to were also actively engaged in teaching and training young men for the profession. William and Mary's Medical School, founded in 1779, followed that of Pennsylvania, which was the first in America. Twenty years later, Doctor Samuel Brown organized the Medical Department of Transylvania University in Kentucky, which was reorganized in 1819 by Doctor Benjamin Dudley. Both Dudley and McDowell lectured for years in this school of medicine, which was later removed to Louisville and incorporated in the University of Louisville.

Baltimore began instruction in medicine in 1800, and since that time the schools of Maryland have occupied a deservedly high position. An endowment by one of her citizens made possible Johns Hopkins University, foremost in scientific research, as well as a completely endowed hospital by the same name. Doctor Harris, of Baltimore, founded the Baltimore College of Dental Surgery in 1845, which was not only the first in America, but in the world.

In South Carolina, medical instruction was first organized in 1823; in Louisiana, in 1835. Both of these States have maintained schools of high character.

The Medical Institute founded and presided over by Doctor Mettauer in Virginia, in 1839, became later a part of Randolph-Macon College. After the Revolution, Hampden-Sidney College developed a medical department located in Richmond. Some time later, the State of Virginia took this over, and it became the Medical College of Virginia, and was the first to draw young Southern students away from the Northern medical schools. In the course of time, the Medical Department of

the University of Virginia also took high rank, which it still holds.

Devotion to duty was never better illustrated than during the terrible epidemic of Yellow Fever in Norfolk and Portsmouth, Va., in 1855, which lasted over three months and depopulated two cities. It is estimated that one in three of the white population perished, and no less than forty-five physicians lost their lives.

And what shall we say of the Medical Corps in the Confederate Army, those brave men who wore their wounds like stars? Doctor Hunter Holmes McGuire, who was on Stonewall Jackson's staff, says: "Before the war ended, some of the best military surgeons in the world were to be found in the Confederate Army. His scant supply of medicines and hospital stores made him fertile in expedients of every kind. He searched field and forest for plants of medicinal value. The pliant bark of a tree made him a tourniquet; the juice of a green persimmon, styptic; a knitting needle, with point bent, a tenaculum. Breaking off one prong of a table fork, and bending the other prong, he would elevate the bone in a depressed fracture of the skull, and save life. Many valuable contributions to military surgery were made by Confederate surgeons."

Nor should we forget Doctor Samuel Demiss, of the University of Louisville, who, after serving through the War of the sixties, moved to New Orleans, where his skill became a cnp of healing in the Yellow Fever epidemic of 1878. President Hayes appointed Doctor Bemiss chairman of the committee to investigate the origin of the fever. His report really resulted in the founding of a National Board of Health one year later. He was also a voluminous writer on professional subjects.

One is disposed to marvel that the members of the Southern School of Medicine have done so much with the means at their command, and history should grant them an honorable place among the great agencies to which the real advancement of America is due.

NOTE.—As one of the judges in this contest, Dr. Robert Wilson, Dean of the South Carolina Medical College, noted on the margin of this paper that the first quarantine act was passed by Massachusetts in 1648; and the second by South Carolina in 1698.

President's Message

The Business of Medicine vs. The Art of Medicine.

[By gracious request of the Editor of this Journal, a part of the discussion intended for this page this month, and supplementary to this article, will be found under the Editorial section in this issue]

It is believed that it will be a conceded fact that the professional practice of Medicine has in recent years changed as much as the economic conditions under which physicians have done their work.

In addition, there has been developed, owing to the revelations of medical research, and the discovery of new and most remarkable methods of cure by physicians, an awakened public health-consciousness that sometimes ignorantly, but generally honestly, is demanding from the profession the speedy proof and acceptance of many of these alleged life-giving discoveries. As a result, health foundations, private philanthropic efforts, etc., have been initiated, hoping that with the speed characteristic of this age, greater efficiency might be developed, and earlier results secured. Naturally, confusion has arisen, and often the physician, the author of these innovations, has been side-tracked or completely overwhelmed in the onward rush for quick and practical results.

Frequently, the physician has been too slow, and on the other hand, the public has been too hasty; there has been evident waste of opportunity by the one, and consequent destructive effort by the other.

The time has now come when these facts must be recognized, and the County Medical Society, the basic unit of medical organization for both professional and civic betterment, must meet these changing standards, and prove to the public that under such conditions, medical statesmanship for the common good means medical leadership in both the humanitarian and economic life of the people.

Formerly, there was only one kind of medical service, private practice; today, there are two kinds, private and public. The one was individual, the other is state-wide; the one was a bit selfish, the other is generously sympathetic.

In this day, physicians can no longer live for themselves nor unto themselves, for their obligations personally have increased professionally with the growth and advancing knowledge of their clientele.

With this increase of business and professional activity, a communal life has developed,

and there have come new duties, not only civic but professional, and logically, our medical duties are now not only personal, but largely social in administrative function, and consequently, in this era of change and development, our efforts have been enlarged in scope and possible efficiency, and the County Medical Society must adjust its policies accordingly.

Never were the unsolved problems that confront the profession, both those of scientific research and of organized medicine, so varied, so vital and so profound as they are at this time, and their solution requires a new courage and a rare idealism which must summon to their aid the alliance of all helpful health organizations in the State.

Our state, and above all, our profession demands from each citizen and each member not only a negative acceptance of membership, but a positive allegiance, and sentimentality must not be mistaken for service.

The humanitarian demands of enlightened public opinion must likewise be considered and, when supported by common sense, must be met by the profession and coalesced with other health movements, or guided by medical leadership into safe channels. We must not be uselessly obstructive, nor wholly repressive. The public has certain well-established rights and privileges, and we must admit such and endeavor to lead or frustrate them openly, as occasion may dictate. We must admit that our professional standards sometimes are not adjusted to economic needs, and when this self-appraisal proves the fact, we must not be slow to accept this viewpoint, and in return, should hasten to do that which justly conforms to our ideals as a health-service profession, anxious to champion and advance scientific medicine and worthy communal causes.

The individualism of medical practice is passing, and the County Society must adjust itself to this new era of thought. The Business of Medicine must be predicated and practiced upon the same high grounds of achievement as the Art of Medicine, and if organized medicine cannot fulfill these requirements, some other agency, even Federal or State, can, and will.

In this effort, no war should be waged by curative medicine against preventive medical methods, for it is unnecessary and wasteful, and makes sour "the pure juice of the grape of human welfare."

All these medical problems, some profes-

sional, and others more businesslike in character, must be solved by a medical statesmanship, born and developed in the County Medical Society and, when a new condition appears, it should first recognize and harmonize, and then cooperate and lead to a successful conclusion.

Medicine has assumed public characteristics in this latter day, and when this vision is established in the minds of official and non-official agencies striving for the same end, the local County unit through its Committees on Public Relations and Public Health Education can solve these irritating and complex problems of economic development, and a liberalized profession will have increased work to do in this new and inviting field of modern medicine, supported by other broad alliances with high aspirations for service.

J. ALLISON HODGES, M. D., *President.*
Medical Society of Virginia.

Proceedings of Societies

The Elizabeth City County Medical Society

Recently elected the following officers for the year 1931: President, Dr. J. W. Hope, Hampton; vice-president, Dr. P. J. Parker, Hampton, and secretary, Dr. G. K. Vander-slice, Phoebus. Drs. Eldred S. Jones and Willard Smith, both of Hampton, have been elected to membership.

The Society met at the office of Dr. Vander-slice on February 2nd, and was well attended. Two surgeons from the U. S. Army at Fort Monroe, one from Langley Field, and two from National Soldiers' Home were present and entered into the active work of this Society.

"Syphilis" was the subject for the evening, a paper being read by Dr. W. H. Howard, Hampton, dwelling especially with its Pathology, Diagnosis and Treatment. In discussing the paper, the remarkable apparent lessening of the disease in the U. S. Army was commented on as well as the notable increase in its prevalence in civil life—or possibly the increased diagnostic acuteness makes it appear so—though the marked increase in all venereal diseases seemed to some of those discussing the subject to be observable on even superficial study.

On February 17th, the Society met with Colonel Duval, Surgeon in charge, Fort

Monroe, Va., and at that time Major Howell M. Estes, U. S. Cavalry, instructor in the Coast Artillery School at Fort Monroe, showed a moving picture demonstrating the operation of the Medical Regiment with an Infantry Division during an attack. This was followed by three films of the "Battle of the Somme" and of Italian Equitation at the Assembly Room of the Coast Artillery School.

The Rockbridge County Medical Society

Held its quarterly meeting at the Jackson Memorial Hospital, Lexington, Va., January the 21st. The following doctors were present: Drs. H. R. Coleman, Jr., R. P. Cooke, C. H. Davidson, F. M. Leech, H. L. Mitchell, and E. P. Tompkins, of Lexington; Drs. Charles S. Groseclose, J. H. Mapp, and F. L. Thurman, of Buena Vista; and Dr. J. H. Green, of Brownsburg. There new members were elected, namely, Drs. Coleman, Green, and Groseclose.

Dr. Francis Lee Thurman gave a report of the recent meeting of the Southern Medical Association which was held at Louisville, Ky., and the unveiling of the monument to Dr. Ephraim McDowell. Dr. McDowell, who was born in Rockbridge County, Va., and later emigrated to Kentucky, was the first physician in the world to perform an abdominal operation. This was done in the year 1809, the patient being Mrs. Jane Todd Crawford, who was also born in Rockbridge County. Mrs. Crawford rode sixty miles on horseback to his office and in twenty-five days rode home again. No anesthetic nor antiseptic was used, and it is said that Mrs. Crawford repeated Psalms during the operation. Dr. Thurman stated that an effort is being made to erect a monument to Mrs. Crawford also.

The following officers were elected for the coming year: President, Dr. Francis Lee Thurman, Buena Vista; vice-presidents, Dr. J. H. Green, Brownsburg, and Dr. C. H. Davidson, Lexington; and secretary-treasurer, Dr. H. L. Mitchell, Lexington (re-elected).

The James City County Medical Society Revived.

At the suggestion of Dr. A. M. Sneed, of Toano, there was held a meeting in his office, January 29th, for the purpose of reviving the old James City County Medical Society. The following officers were elected: President, Dr. A. M. Sneed, Toano; vice-president, Dr. J. R. Parker, Providence Forge; secretary-treasurer,

Dr. J. R. Tucker, Williamsburg. Others present were Drs. J. M. Henderson, E. B. Kilby, W. L. L. Smoot, and D. J. King.

Among the matters discussed was the changing of the name of the Society to James City-New Kent Medical Society; the inclusion in the membership of the dentists of these two counties; standard fees for the administering of vaccines, etc. The society is to meet the first Thursday quarterly. The next meeting will be held at Providence Forge, on April 2nd.

After the meeting, the members adjourned to the home of Dr. Sneed where Mrs. Sneed served a most delightful supper.

The Loudoun County Medical Society

Held its regular monthly meeting at the home of Dr. Geo. H. Musgrave, Leesburg, Va., on Wednesday, February 11th. The society discussed, at some length, the Board of Supervisors' notice of their resolution, published in the *Loudoun Times-Mirror*, which substantially is: Indigent persons, sent by the Board of County Supervisors to the Loudoun County Hospital, will be treated at the expense of the county by such resident physician as may be designated by the hospital, instead of the physician residing near the home of the indigent. It was decided to bring the matter up at the next meeting, as it was introduced late in the evening and, on account of its serious nature, required much thought.

A letter to Dr. W. H. Ross, president of the New York Medical Society, was read, thanking him for his communication relative to the work of the Public Relations Committee for his state.

Dr. G. F. Simpson, Purcellville, is president, and Dr. W. O. Bailey, Leesburg, secretary of this society.

The Mid-Tidewater Medical Society

Met at West Point, Va., on January 27th, with an attendance of about 75 per cent of its membership. The following officers for 1931, who were elected at the October meeting, were duly inducted into office: Dr. William Gwathmey, Ruark, president; Dr. R. D. Bates, Newton, vice-president and president-elect; Dr. M. H. Harris, West Point, secretary; and Dr. Jas. D. Clements, Ordinary, treasurer. After a brief business session, the society enjoyed an hour of clinical case reports.

The society was entertained at lunch by the local physicians.

At the afternoon session, papers were read by Dr. M. P. Rucker on Treatment of Placenta Previa, and Dr. Greer Baughman on Prenatal Care. Both papers were discussed and thoroughly enjoyed by everybody. Other visitors attending were Drs. F. S. Johns, J. A. Sheild, and D. D. Talley, also of Richmond.

The next meeting will be held at Sahuda, Va., on the fourth Tuesday in July, 1931.

The Arlington County Medical Society,

At its regular January meeting, elected the following officers for the ensuing year: President, Dr. John H. Gilligan, Clarendon; vice-president, Dr. Blanche Tabor, Cherrydale; secretary-treasurer, Dr. B. H. Swain, Ballston (re-elected).

Dr. J. Ogle Warfield, of Washington, D. C., read an interesting paper on "The Acute Abdomen." It was an excellent symposium on these troubles and brought out many points of decided educational value. The discussion showed quite a variety of opinions as to the conditions met with in the abdomen and the causes and methods of determination and treatment were freely discussed.

Warwick County Medical Society.

At the meeting of this Society on January 26th, Dr. Walter B. Martin, Norfolk, was an invited guest and read an interesting paper on "The Value of Iron in Secondary Anemia." This paper was discussed by Drs. E. L. Alexander, W. O. Poindexter, and J. E. Marable.

This is an active society with meetings on every second and fourth Monday of each month. The 1931 officers of the Society are Dr. L. E. Stubbs, president; Dr. W. O. Poindexter, vice-president; and Dr. Edward L. Alexander, secretary-treasurer. All officers are of Newport News.

New Education Bill in Great Britain.

The President of the Board of Education of Great Britain recently stated in Parliament that if the contemplated raising of the school-leaving age from fourteen to fifteen years became fully effective, approximately 400,000 children would receive an additional year's training in the schools of England and Wales. Of these, about 80,000 would be in rural and 320,000 in urban districts.

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Continued Clinical Education.

The subject of post-graduate medical education has in recent years been receiving a well-deserved amount of constructive thought, as a result of which serious effort is being made in Virginia as well as in many other states to bring within reach of the general practitioner of medicine opportunity for keeping informed as to the advances constantly being made in medicine.

This indicates first, that there is a generally recognized need, more or less conscious in nature, among the rank and file of the profession; and second, that there is recognition on the part of our Medical Colleges of a definite responsibility for extending aid along these lines to the graduate in medicine after he has received his diploma; third, that there is today an exacting and stimulating demand on the part of the lay public for scientific, modern methods in diagnosis and treatment brought about to a large extent by the modern public health movement. The microscope, the X-ray and other instruments of accuracy and revealed truth, have helped to bring about this new attitude on the part of the public. The doctor is finding today more than ever before that the emphasis is being shifted. This shifting of emphasis and the necessary readjustment resulting has led to much confusion. This fact along with the demand for increased hospital facilities has led to many economic problems, alike perplexing to the doctor and to the patient. The development of public clinics and of group practice, brought about in part at least by the mounting cost of medical treatment, have presented problems of national interest. The need, therefore, for a practical plan of continuing medical education has been intensified during this period of readjustment.

Organized medicine in Virginia, as represented by the State Medical Society, by the two Medical Colleges and by the State Board of Health, owes it to the individual doctor and to the people of the State not only to hold high the torch of medical knowledge but also to see that all the practical help possible is brought within reach of the man remote from hospitals who must work out his daily problems alone. Granted then that post-graduate clinics

are needed as an aid to the average man in his effort to keep abreast of the times, it is manifestly the duty of these organized medical agencies of Virginia, operating through the Department of Clinical Education, to conduct them. Question as to what kind of clinics to hold and how to hold them naturally arises.

That such a representative group of doctors as compose this committee on post-graduate education is setting itself to work out this problem is a most encouraging sign of the times. I understand that a good beginning has already been made and that a plan is being worked out whereby at least one clinic is to be held in each of the ten councilor districts during the current year. While there naturally will be diversity of opinion as to details of subject, time and place, there can in my opinion be little question as to the value of this effort. In my opinion these clinics should be made to deal primarily with those questions which most frequently confront the general practitioner and should be dealt with in rather intensive fashion with cases selected and demonstrations conducted in such a way as to clearly present the most modern thought on a given subject. For example, every general practitioner is called upon to deal frequently with problems of infant feeding. A clinic on this subject, therefore, might be made to develop most interesting and helpful teaching material.

R. W. GARNETT, M. D.,
Health Officer, Danville, Va.

We are very much pleased to have on this page a short article by Dr. R. W. Garnett, Health Officer of the City of Danville. Dr. Garnett was formerly Assistant State Health Commissioner of Virginia and is considered one of the most active and progressive health officials in the State. His views and suggestions should be helpful to us. I take pleasure in giving this article my hearty endorsement.

Scheduled Meetings

The Chairman of this Department is much gratified and encouraged at the response to the letter sent out to the Councilors in January.

Dates have been fixed and programs are being arranged for a number of clinical meetings to be held within the next two months in the following cities and towns: Petersburg, Lynchburg, Norfolk, Lebanon, Wytheville, Waverly, Hopewell, Martinsville, Newport News, Roanoke, Richmond, and University.

NORFOLK COUNTY MEDICAL SOCIETY

The following programs will be presented during the month of March, 1931:

Monday, 9th March: SECTION ON SURGERY

Mesenteric Thrombosis, Dr. Robert Duval Jones.

Cardiolysis for Adhesive Pericarditis, with motion pictures, Dr. Hugh H. Trout, Roanoke, Va.

Discussion of Adhesive Pericarditis, with report of a case, Dr. R. L. Payne.

Monday, 16th March: SECTION ON MEDICINE

Syphilis as an Economic Problem, Dr. D. Lee Hirschler.

Serum Diagnosis of Syphilis, Dr. Mary E. Roche.

X-Ray in the Diagnosis of Chest Disease, Dr. Chas. R. Grandy.

Monday, 23rd March: SECTION ON PEDIATRICS

Subject to be announced later.

Monday, 30th March: SECTION ON EYE, EAR, NOSE AND THROAT

Accessory Sinus Disease as a Factor in Focal Infection, Dr. Herbert R. Etheridge.

The All Day Clinic conducted last Spring by the Norfolk County Medical Society, at the suggestion of the Department of Clinical Education of the Medical Society of Virginia, was such a success that it was decided to make it an annual affair. The date has been tentatively set for the middle of April, but will be announced definitely in the April issue of the MONTHLY.

A cordial invitation is extended to all members of the Medical Society of Virginia to be in Norfolk for this occasion and doctors from other states are also invited to attend this All Day Clinic.

The *Lynchburg and Campbell County Medical Society* is arranging for an afternoon and evening clinical meeting on April 23rd, in co-operation with the Department of Clinical Education. The clinics will start at 2 P. M. and there will be six thirty-minute clinics with demonstrations of patients and conditions. There will be a supper at 6:30 P. M., and this will be followed by four fifteen-minute papers. The meeting will be over by 8:30 P. M.

All of the clinics will be held in one place, the location of which will be announced later. Invitation is extended all members of the Medical Society of Virginia to attend.

Information about this clinic may be obtained from Dr. D. P. Peters or Dr. Ernest G.

Scott, president and secretary, respectively, of the society, or Dr. J. R. Gorman, Councilor, all of Lynchburg.

The *Southside Virginia Medical Association* will hold its regular quarterly meeting conjointly with the Department of Clinical Education of the Medical Society of Virginia at the Central State Hospital, Petersburg, Va., on March 10th.

The feature of this meeting will be an address on "Psychological Medicine" by Dr. William A. White, of Washington, D. C., distinguished psychiatrist and superintendent of St. Elizabeth's Hospital of that city. This will be an unusual privilege for doctors in this section, as Dr. White has not previously appeared before a district society in Virginia.

Dr. Ruth Mason, Petersburg, is president, and Dr. Philip Jacobson, also of Petersburg, secretary of the Association.

Information

All members of the Medical Society of Virginia are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Executive Secretary, Mr. George W. Eutsler, P. O. Box 767, University, Va., or to the Chairman of the Department of Clinical Education, Danville, Va.

I. C. HARRISON, *Chairman*.

Analyses, Selections, Etc.

Graduate Education in Virginia.

Dr. Frank Overton, Executive Editor, has the following to say in the February 15th issue of the *New York State Journal of Medicine*:

The House of Delegates of the Medical Society of Virginia on September 22, 1929, approved and adopted a report of the Committee on Medical Education and Hospitals, outlining a plan for bringing graduate medical education within reach of the physicians of the State through the cooperation of the State Medical Society, the two medical schools of the State, and the State Department of Health. The plans were reported in several issues of the VIRGINIA MEDICAL MONTHLY, abstracts from which were published in four issues of the *New York State Journal of Medicine* as follows:

December 15, 1929, page 1,550.

February 1, 1930, page 188.

February 15, 1930, page 248.

April 15, 1930, page 486.

We have just received a booklet of sixty-eight pages entitled "Post-Graduate Medical Education in Virginia," published by the University of Virginia, Charlottesville, Va. The booklet is a review of graduate work not only in Virginia, but also in other States. The Virginia booklet, Part 1, opens with the sentences:

"Various plans in thirteen American states, Colorado, Iowa, Michigan, Minnesota, Missouri, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, West Virginia, and Wisconsin, are known to have been inaugurated, with different degrees of success, as state programs of graduate medical education. Such data as could be found for each state have been summarized."

In addition to these thirteen states, the *New York State Journal of Medicine* of 1929 and 1930, has abstracted descriptive references to Graduate work from the Journals of seven additional states: Georgia, Indiana, Kentucky, New Jersey, South Carolina, Texas, and Washington. The *New York State Journal* also quoted Kansas and Nebraska as seriously considering the establishment of graduate courses.

The Virginia booklet devotes three pages to the New York State Society courses, and says:

"New York has the largest undertaking, conducted by the strongest State Society, on the most generous plan." Its description of the methods in other states is a mine of information.

The VIRGINIA MEDICAL MONTHLY for January says editorially:

"Throughout the past year Dr. Hodges as Chairman of this Department has had an article on this page in each issue of the MEDICAL MONTHLY, discussing the work of the Department (of Clinical Education), setting forth his plans for post-graduate medical education and appealing for cooperation to the Councilors of the State Society and to the leaders in the various Component Societies.

"It will be our policy to carry out the same plan with some changes which will, I think, add to the general interest of these articles. I shall at various times during the year ask other members of the Department of Clinical Education to contribute short papers giving their views on various phases of the work, and feel sure that this will add materially to the ef-

fectiveness of our whole undertaking. We may also from time to time ask specialists to discuss the importance of holding clinics in certain specified diseases. In some cases these may be teachers connected with one of our Medical Schools and in others general practitioners or specialists in private practice. I feel that this departure will meet with the approval of the membership of the State Society."

The January MONTHLY also had the following news note:

"A post-graduate clinic for Negro physicians of Virginia is announced by Dr. W. T. Sanger, president of the Medical College of Virginia. This is stated to be the first educational venture of its kind in the South and will be established by the College in connection with the Saint Philip Hospital, Richmond. The instruction will begin June 16th. The Negro physicians have been asked to decide upon the courses. It is stated that the College has had the plan under consideration for several years and it has the indorsement of the Department of Clinical Education of the Medical Society of Virginia."

Woman's Auxiliary, to the Medical Society of Va.

New Opportunities.

It is believed that the members of the Auxiliary really desire opportunities to aid the State Medical Society, and thus advance health measures for the people at large.

Consequently, your President is now suggesting two opportunities for service, one of them has been only recently undertaken by the State Society through its educational agency (The Department of Clinical Education), and the other it is hoped soon will be. The one looks to the education of prospective mothers, and the other will be concerned with public health education generally.

The first of these is just being initiated, and will seek to educate mothers in maternal welfare by physicians holding Pre-natal and Post-natal clinics throughout the State, and it is urged that assistance in this work be made the *special duty of each Auxiliary for this year*. This, of course, will take time, but our members can be of the greatest assistance to

the local doctors in educating in advance women who are prospective mothers as to the simple directions and precautions necessary to protect the lives of themselves and their infants during the pre-natal and post-natal stages, and later, by aiding the clinics when they shall be held all over the State.

The appalling record for mortality in maternity cases is well known, especially in the United States, it being the highest in the civilized world, and it is our duty, as your President believes it will be your pleasure, to do your part in this humanitarian and necessary work.

The Medical Department of the University of Virginia and the Medical College of Virginia are going to help the doctors in this State-wide work, and our Auxiliaries can assist most materially.

To see what can and has been accomplished by very simple measures, see the recent February issue of the VIRGINIA MEDICAL MONTHLY, pages 758-9.

We can render a personal service by looking up the women in the rural sections. They are usually shy and difficult to approach, but by tact and a sympathetic understanding, we can put them in touch with medical assistance.

Please help in this great opportunity for service by at once interesting your local Auxiliary, and inform me, so that your cooperation can be reported in these columns.

The Auxiliary, as its name implies, is to aid in promoting the aims and objects of the Medical Society of Virginia, especially along the lines of health education and Public Welfare. It shall not take any action contrary to, or independent of the Medical Society of Virginia, and to that end, the Society has appointed an Advisory Board of three physicians, Drs. Southgate Leigh, of Norfolk, J. W. Preston, of Roanoke, and Lawrence Price, of Richmond, to whom we can go for advice and assistance.

The greatest need of our Auxiliary is to have a larger organization. There should be an organized group in each county to do effective work. This cannot be left solely to our Chairman of organizations—all must help.

We urge every doctor's wife to look carefully over her community, and get a group together no matter how small, and study their local health condition—no work is so important. We want our families and friends, not to be merely "up and around," but to be 100

per cent fit, for it takes perfect health to meet the many demands in this strenuous age. We must have correct, definite information before we can pass it on to others.

Keep informed by reading the Auxiliary reports in the different State Journals, and especially the interesting articles in the *American Medical Association Bulletin* written by that "live wire" little woman, Mrs. W. J. Freeman—would there were more of her kind.

Let's all pull together, and have a year of notable achievement.

AUXILIARY NOTES

The Woman's Auxiliary of The American Medical Association sends out at regular intervals a Study Program which you will find most interesting and helpful

These programs are prepared by Mrs. Evarts V. DePew and Mrs. George H. Hoxie, and approved by the Advisory Council of The American Medical Association.

Envelope No. 4 on "Communicable Disease Control" has just been issued, and contains much valuable information—especially in regard to protecting school children.

Anyone interested can secure this Envelope No. 4 by writing to Mrs. J. Newton Hunsberger, 514 West Main Street, Norristown, Pa.

Many programs on various subjects suitable for Auxiliaries have been developed in the past year, so any group can find a plan to suit its need.

The Auxiliaries are taking great interest in collecting and preserving the Medical history of their respective States.

Texas again carries off the palm of priority, as Mrs. S. C. Red, the first President of The National Auxiliary, is the first woman to write the Medical History of a State. Her book, "The Pioneer Doctor," is just off the press. The proceeds from this book will be devoted to Auxiliary work.

Three Southern States report histories of their Auxiliaries in preparation, and six are keeping scrapbooks.

Read in this number of the VIRGINIA MEDICAL MONTHLY, an excellent article "The South's Contribution to Medical Science," a prize essay, by a Virginia woman, Mrs. William Cabell Flournoy. While not a doctor's wife, she is connected with the profession by kinship with Virginia physicians.

Mrs. Flournoy has long been an active worker in the Civic, Patriotic, and Literary women's organizations of the State. She has been honored with many offices, and we are glad she has contributed this valuable paper on the history of the Medical profession in the South.

Any historic information, please send to me.

MARY GRAY HODGES, *President,*
Woman's Auxiliary,
Medical Society of Va.

The Truth About Medicine

In addition to the articles enumerated in our letter of December 27th, the following have been accepted: Abbott Laboratories

Ampules Gold Sodium Thiosulphate—Abbott, 0.01 Gm.

Arlington Chemical Co.

Grass Mixture No. 1 Pollen Extract—Arlco (Timothy, June Grass, Orchard Grass, Red Top, in equal parts); Grass Mixture No. 2 Pollen Extract—Arlco (Timothy 40 per cent, Orchard Grass, Red Top, and Sweet Vernal Grass, each 15 per cent); Grass Mixture No. 3 Pollen Extract—Arlco (Bermuda Grass and Johnson Grass in equal parts); Ragweed Dwarf and Giant Mixture Pollen Extract—Arlco (equal parts of each); Birch Mixture Pollen Extract—Arlco (White Birch, Black Birch, Yellow Birch in equal parts); Maple Mixture Pollen Extract—Arlco (Red Maple, Ash-leaved Maple, Norway Maple, Sugar Maple in equal parts); Oak Mixture Pollen Extract—Arlco (White Oak, Red Oak, Black Oak, Swamp Oak in equal parts).

Fairchild Bros. & Foster

Liver Extract—Fairchild.

Eli Lilly & Co.

Tablets Amytal, $\frac{3}{4}$ grain.

H. A. Metz Laboratories

Sulpharsphenamine—Metz, 0.75 Gm. Ampules.

Sulpharsphenamine—Metz, 0.9 Gm. Ampules.

Sulpharsphenamine—Metz, 3.0 Gm. Ampules.

G. D. Searle & Co.

Procaine Borate—Searle

Ampules Procaine Borate and Epinephrin 1 c.c.

NEW AND NON-OFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Diphtheria Toxoid.—This product (Jour. A. M. A., November 15, 1930, p. 1505), is also marketed in packages of ten immunization treatments containing two 1 c.c. vials of diluted diphtheria toxoid for the reaction test and twenty 1 c.c. vials of diphtheria toxoid for treatment; in packages of fifteen immunization treatments containing one 1 c.c. vial of diluted diphtheria toxoid for the reaction test and one 30 c.c. vial of diphtheria toxoid for treatment. Lederle Laboratories, Inc., Pearl River, N. Y.

Schick Test.—A diphtheria immunity test (New and Non-official Remedies, 1930, p. 380), marketed in packages of one capillary tube containing undiluted diphtheria toxin standardized, sufficient for ten tests, accompanied by sterile diluent; in packages of one capillary tube containing undiluted diphtheria

toxin standardized, sufficient for fifty tests, accompanied by sterile diluent; in packages of two capillary tubes containing undiluted diphtheria toxin standardized, sufficient for one hundred tests, accompanied by sterile diluent. As a means of control the Schick test control is supplied. National Drug Co., Philadelphia.

Ephedrine Hydrochloride—Gane and Ingram.—A brand of ephedrine hydrochloride—N. N. R. (New and Non-official Remedies, 1930, p. 169). Gane and Ingram, Inc., New York.

Ephedrine Sulphate—Gane and Ingram.—A brand of ephedrine sulphate—N. N. R. (New and Non-official Remedies, 1930, p. 170). Gane and Ingram, Inc., New York.

Tuberculin Old (Human).—Tuberculin—Koch (New and Non-official Remedies, 1930, p. 358), marketed in single 1 c.c. vial package; also in packages of one 4 c.c. vial. National Drug Co., Philadelphia. (Jour. A. M. A., January 3, 1931, p. 39).

Pollen Extracts—Cutter.—The following pollen extracts—Cutter (New and Non-official Remedies, 1930, p. 31), have been accepted: Oak Pollen Extract—Cutter; Western Ragweed Pollen Extract—Cutter; Western Water Hemp Pollen Extract—Cutter. Cutter Laboratory, Berkeley, Calif.

Winthrop Viosterol in Oil, 250 D.—A brand of viosterol in oil 250 D.—N. N. R. (New and Non-official Remedies, 1930, p. 410; Jour. A. M. A., October 4, 1930, p. 1021). Winthrop Chemical Co., Inc., New York. (Jour. A. M. A., January 24, 1931, p. 271).

Tetanus Gas Gangrene Antitoxin (Lederle), Refined and Concentrated.—An anaerobic antitoxin (New and Non-official Remedies, 1930, p. 343), prepared by immunizing horses with gradually increasing doses of the toxins of *B. tetani*, *B. perfringens*, and *Vibrio septique*. The toxins are individually prepared. The product is marketed in packages of one syringe containing one prophylactic dose, stated to represent tetanus antitoxin, 1,500 units, perfringens antitoxin 1,000 units and *Vibrio septique* antitoxin 10 units. Lederle Laboratories, Inc., Pearl River, N. Y.

Gas-Gangrene Antitoxin (Polyvalent), Refined and Concentrated Without Tetanus Antitoxin.—An anaerobic antitoxin (New and Non-official Remedies, 1930, p. 343), prepared by immunizing horses with subcutaneous injections of gradually increasing doses of the toxins of *B. perfringens*, *Vibrio septique*, *B. oedematis*, *B. sordelli* and *B. histolyticus*. The toxins are individually prepared. The product is marketed in vials containing one minimum therapeutic dose, stated to represent perfringens antitoxin 10,000 units, *Vibrio septique* antitoxin 100 units, *B. oedematis* antitoxin 200 units, *B. sordelli* antitoxin 200 units, and *B. histolyticus* antitoxin 25 units. Lederle Laboratories, Inc., Pearl River, N. Y.

Tablets Amytal, $\frac{3}{4}$ grain.—Each tablet contains amytal (Jour. A. M. A., October 18, 1930, p. 1178), $\frac{3}{4}$ grain. Eli Lilly & Co., Indianapolis.

Ampules Gold Sodium Thiosulphate—Abbott, 0.01 Gm.—Each ampule contains gold sodium thiosulphate—Abbott (Jour. A. M. A., December 20, 1930, p. 1913), 0.01 Gm. Abbott Laboratories, North Chicago, Ill.

Sulpharsphenamine—Metz, 0.75 Gm. Ampules.—Each ampule contains sulpharsphenamine—Metz (New and Non-official Remedies, 1930, p. 72), 0.75 Gm. H. A. Metz Laboratories, Inc., New York.

Sulpharsphenamine—Metz, 0.9 Gm. Ampules.—Each ampule contains sulpharsphenamine—Metz (New and Non-official Remedies, 1930, p. 72), 0.9 Gm. H. A. Metz Laboratories, Inc., New York.

Sulpharsphenamine—Metz, 3.0 Gm. Ampules.—Each ampule contains sulpharsphenamine—Metz (New and Non-official Remedies, 1930, p. 72), 3.0 Gm. H. A. Metz Laboratories, Inc., New York. (Jour. A. M. A., January 31, 1931, p. 357).

PROPAGANDA FOR REFORM

Treatment of Cough After Bronchitis.—Children who cough should not be permitted to attend school. If the child has fever, it should be kept in bed. Warmth, as uniform as possible, is the prime requisite in the treatment of colds and acute coughs. The chief of all expectorants is water: without it most medicinal expectorants fail and, with an abundance of it, they may not be required. Nevertheless, they probably contribute, when wisely used, to a speedier evolution of the various stages of bronchitis and to a more rapid recovery. The salines, chief among them ammonium chloride and sodium citrate, head the list of agents that may reasonably be expected to be of use in "loosening up" a cough, provided they are given freely, frequently and with plenty of fluid. Iodide, the most powerful of the saline expectorants, should not be employed until the acute stage is well over. When the cough is "loose," aromatics may be of value such as terpin hydrate and creosote. A cough that hangs on is not so much an indication for medicine as a challenge to determine why it does. (Jour. A. M. A., January 3, 1931, p. 61).

Antitoxins Against Scarlet Fever.—No "one-shot" method of active immunization against scarlet fever has proved effective. The present status of the "ricinoleated antigens" is that they are of unestablished value. Their therapeutic action has not been proved. Scarlet fever ricinoleated antigen has been distributed by only one concern and that concern has recently discontinued the manufacture and distribution of ricinoleated antigen and is recalling it from the market. (Jour. A. M. A., January 24, 1931, p. 292).

Book Announcements

A Manual of Normal Physical Signs. By WYNDHAM B. BLANTON, B. A., M. A., M. D., Assistant Professor in Medicine, Medical College of Virginia. Second Edition. St. Louis. The C. V. Mosby Company. 1930. 12mo. of 246 pages. Illustrated. Cloth. Price, \$3.00.

The purpose of the manual is to present briefly and concisely such data as will enable the beginner in physical diagnosis to familiarize himself with the normal appearance of directly and indirectly visible surfaces; to visualize the normal location, size, and relations of those structures which may become altered by disease; to elicit and to recognize the manifestations of normal parenchymatous function.

Brevity and simplicity are achieved by presenting the text in outline form, supplemented with numerous well chosen diagrams and photographs.

There is a wealth of useful information simply stated and easy to find in the chap-

ters on sound, inspection, palpation, percussion, auscultation, constitutional signs, head, neck, breast, respiratory system, blood vessels, blood pressure, sphygmomanometry, and electrocardiography, esophagus and abdomen, back, extremities, lymphatic system, rectal, and vaginal examinations, youth and old age. The chapters on regional anatomy, heart, nervous system, and order of physical examination are especially good.

For the next edition it is suggested: that the preface explain more fully the purpose of and need for this well conceived work; that more detailed references be made to the diagrams; that a brief section on transillumination of paranasal sinuses be included; that the few references to manifestations of disease, as on page 45, be anticipated in the preface.

O. S.

Chinin in der Allgemeinpraxis Unter Berücksichtigung Pharmakologischer Befunde. VON DR. MED. FRITZ JOHANNESSEN. Mannheim. Mit Drei Bildnissen. Bureau Tot Bevoording Van Het Kinine-Gerbruik Amsterdam-W, 1930. pamphlet of 232 pages. Upon request, copies will be sent medical men free of charge.

Modern Methods of Treatment. By LOGAN CLENDENING, M. D., Professor of Clinical Medicine, Lecturer on Therapeutics, Medical Department of the University of Kansas; Attending Physician, Kansas City General Hospital; Physician to St. Luke's Hospital, Kansas City, Mo. With Chapters on Special Subjects by H. C. Andersson, M. D.; J. H. Cowherd, M. D.; H. P. Kuhn, M. D.; Carl O. Rickter, M. D.; F. C. Neff, M. D.; E. H. Skinner, M. D.; and E. R. DeWeese, M. D. Fourth Edition. St. Louis. The C. V. Mosby Company. 1931. Octavo of 818 pages. Illustrated. Cloth. Price, \$10.00.

Cancer. Its Origin, Its Development and Its Self-Perpetuation. The Therapy of Operable and Inoperable Cancer in the Light of a Systemic Conception of Malignancy. A Research by WILY MEYER, M. D., Consulting Surgeon to the Lenox Hill and Post-Graduate Hospital, New York Infirmary for Women and Children, etc.; Emeritus Professor of Surgery, N. Y. Post-Graduate Medical School. Paul B. Hoeber, Inc. New York. 1931. Octavo of 427 pages. Cloth. Price, \$7.50.

May Day—National Child Health Day in 1930. Published by the AMERICAN CHILD HEALTH ASSOCIATION, 450 Seventh Avenue, New York City. Paper. Pamphlet of 116 pages.

This report summarizes the work done in the interest of children in the various states, especially that at the time of the National Child Health Day, which is observed by a larger number of communities each year. This work is proving a help in the promotion of the official health program of the states.

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Editorial

Some Urgent Professional Problems, and Their Solution.

The present status of the practice of Medicine is not entirely reassuring as to its future. Something is seriously awry. The changing standards of this transitional era may be contributory, but even these are not wholly explanatory.

In public, if not in professional estimation, there would seem to be a decadence in the former respect for the ideals of the profession. Surely, it is evident that practitioners of medicine are no longer a privileged class, and proves that the public should be informed of the aims and services of the profession. Notably, too, with a larger mechanical tendency in practice, there has come a more commercial aspect in professional affairs.

Thus, from one cause or another, our profession itself is not the same in its idealistic standards and conceptions, though it may be, and evidently is more efficient in its professional practice.

Much of the trouble may be with the profession itself, its standards and its membership, and if true, should be corrected.

It may, also, be a fact that the average practitioner has not availed himself of latter-day scientific methods and procedures, and thus is lagging in the onward march of professional progress, not realizing that a number of former ordinary infections and diseases no longer exist, and that he must now confine his scientific investigations more definitely to individuals, and must examine his patients more thoroughly than previously to determine existing

pathological encroachments, for, pathology of some kind, or in some degree, is present in nearly every patient, if it can only be determined and localized. This means extra work and increased scientific interest for every physician, and should add much to his material and cultural advantage.

The scientific sphere of Medicine must thus definitely be concentrated in some respects, and yet enlarged in others, and the time has come also, when we must apply "as much science to the business of Medicine, as to the art of Medicine."

The thoughtful conclusion to the whole matter is that the County Medical Society is, and must be, the instrument of scientific precision with which to attack and solve many of these new problems of the profession.

NEW PROBLEMS:

Some of them are not new problems in Europe and Great Britain, but many of them are new to us.

One of the most notable of them, Sickness Insurance, has been brought to us by the World War and the changing economic conditions since that catastrophic struggle. Our soldiers in that War, also, have educated themselves and the American people, as never before, to realize what is best in medicine, and in the future they will never be satisfied with an inferior medical service. This, as formerly, does not mean simply and only technical and professional skill, but also the will and judgment on the part of the medical profession to recognize and adjust radical changes, both professional and economic, in medical practice.

This cannot be done individually, it must be done by uniting ourselves into a cohesive business group in each county and in each state. Such a concept for our profession does not belittle it—it merely amplifies our opportunities for service to our profession and patients as well. We must take notice of the danger signals that are now flying, for we have arrived at a time, in fact this very year, when thirty-three state legislatures in this country are meeting, and in nearly every one of which bills relating to sickness insurance and in some, insurance for unemployment, will be introduced, and we must accept the challenge.

We would not for an instant relax our efforts to make our profession scientifically more perfect in technic, art and learning, for this of itself is of increasing potential value even with

the laity, but just at present, it is firmly believed that "the medical profession is facing greater and more difficult problems in its public relations than it is experiencing in its clinical practice."

The public is declaring that there is a medical economic crisis in our country, and demanding relief from the profession, that it make radical changes in present medical practice. If we neither hear nor heed these rumblings of discontent, we may lay "the foundations of not only less business and organization, but also of less science in Medicine as well." Business organization for self-protection and scientific progress in professional practice, should, then, from this time on, be our combined goal.

THE REASONS AND THE REMEDY:

How can this be done? Primarily, by stimulating the County Medical Society to regard the business aspects of its work as being as important and as compelling as its scientific work.

This in a sense is revolutionary, but these times are revolutionary and such a step is not impossible, nor unethical, and is now made necessary, because

1. The public is charging us with inability, if not failure, to deal with modern economic conditions. It is holding us responsible for many of them, and especially the increasing cost of sickness, forgetting, in reality, that our profession was the first agency, either professional or public, to launch an investigation into the study of this economic condition. It forgets, likewise, that basically this has been the result in large degree of the extravagant demands of many would-be socially-minded climbers, who, as patients, have required unnecessary frills that might advance them socially even in hospital environments. As a result, there has come all of this complaint about increased cost of medical care, when in reality less than three per cent of the income of this country is spent because of illness;

2. As a supposed panacea, the rapid growth of sickness insurance threatens now, as never before, the future of the profession. All of these insurance plans, as practiced in Great Britain and Europe, aim to provide a method of distributing the economic burden of medical care over a large fraction of the population and, in general, the schemes are financed by a combination of contributions from the in-

sured (the employees), the employers, and from compulsory savings and indirect taxation. Worst of all, however, is the fact that the provisions for medical care by means of sickness insurance, as well as drugs, hospital treatment, etc., are only a part of a much larger scheme of insurance in the future against incapacity, disability, unemployment, old age and other economic risks.

At present, twenty-five or more countries have compulsory sickness insurance—three including the entire population, and the remainder restricting it to wage earners, and thus, practically one-third of their population is furnished free medical care and services. In Great Britain, for example, \$800,000,000 annually are expended, of which \$280,000,000 are paid by beneficiaries and employers, while the balance (over five millions) is made up from taxes each year.

In this plan, doctors have no place nor authority, except as temporary employees, and receive in England, according to published statistics, an average of 400 pounds annually for the insured members of the family, and a capitation fee of nine shillings per year for an average panel of 1,000 persons composed of the families of the insured.

This method, subversive of all initiative in the physician and destructive of all scientific study and research in disease, is, however, in high favor in these countries, it would appear, with an overwhelming majority of the insurance physicians, whose annual income is probably increased, but who spend more time in conforming to government red tape than to the treatment and prevention of disease. Strange as it may seem, also, others have commended it, notably the President of the British Medical Association at the annual meeting held recently in Winnipeg, and the Secretary of the International Labor office of the League of Nations, while in this country, a bill has been introduced recently in Congress advocating unemployment insurance, a first cousin to sickness insurance, and the Governor of New York will recommend to the present legislature to "take up a practical and definite study of unemployment insurance." Furthermore, in this country, the same compulsory principle of insurance is being extended in increasing measure to different labor groups. In such industrial groups, there may be some slight justification, but the end results will be practically the

same, special contract medical and surgical service having been the forerunner of all these schemes; and

3. Federal agencies and private foundations of philanthropy are encroaching, likewise, upon the field of medical practice.

It is needless to mention specifically the various Bureaus and Federal subsidies of the Government that for years, and especially since the World War, have increasingly and unremittently invaded the field of the practice of medicine. Some of the public official acts have been open and blatant in regard to medical rights and privileges, while others have been indirect and insidious, but most of them have been definitely and almost continuously destructive of professional initiative and purpose. It is reported that entire divisions of public service, and sometimes the entire families of Federal employees, have been considered for some assistance under the aegis of Federal medical control, and larger hospital facilities are being provided constantly for the care of specially favored groups.

Also, private philanthropic and group social welfare workers are extending their free medical service to include many who are able to pay, without even consultation or direction of medical authorities, either individuals or societies. The special charity in vogue is exploited, but the doctor is flaunted, except that he is utilized for service and generally without remuneration. In one of our states, also, even the State Department of Welfare, directing several important medical institutions, is even more thoughtless (?), and contains not a single physician among its Directors.

It is said that eight thousand hospitals, most of them largely charitable institutions, now function in this country, and that nine million patients were treated last year in America in free clinics.

THE TREND:

The currents are running strong, we are drifting, and compulsory sickness insurance, for example, is but a short step from insurance against unemployment and other experiments in socialized medicine.

Business problems, such as the above, and many others can be solved by a business organization directed by business methods.

As individuals, we are powerless, for we are facing an organized public, such as great industrial organizations, labor unions, legisla-

tures, heavily endowed institutions, and philanthropic lodges and organizations, and to gain notice and secure results, organized effort must meet organized opposition, if not obstruction, face to face on equal terms in a fair field.

THE COUNTY MEDICAL SOCIETY AS A SOLUTION:

To meet these economic forces, and solve these problems, the County Medical Society is our best hope, and it can assist

1. By educating its members to magnify its scientific work, and at the same time study the modern economic problems that affect Medicine;

2. Its Medical Economics Committee and Public Relations Committee—State and County—should bring these matters frequently before each County Medical Society for information and education;

3. Decisions on pending professional economic questions should be made by the Society as a unit, and these should be used as the dictum of the Society's judgment. This will serve to give uniformity and standardization to local medical opinion and expression, and will combat the prevalent idea that doctors never agree on anything, and don't know what they want;

4. These Committees should also investigate all agencies dispensing charity, and report the worthy ones to the County Society for its final judgment and assistance;

5. In legislative years, the county and district candidates should be interviewed before elections by the county or district members of the Public Relations Committee, and informed of local medical opinion on pending legislation affecting the profession and matters relating to public health and public policy, and their opinions, when secured, should be reported to the local Society;

6. The County Medical Society should effect a cooperative business and professional association with all free clinic and free hospital practice in its county, so as to judge if the charity work extended is out of proportion to the needs of the local community;

7. Public health, which is not state medicine, should receive careful consideration by the County Medical Society and, as the medical profession is rightfully the head of all health policies, it should exercise appropriate authority to coordinate all such efforts, and prevent friction between the preventive and curative methods employed, and

8. Our state and national medical organizations will be effective only as the county units are active and intelligent, and consequently, the County Medical Societies must accept their individual and collective responsibilities.

GENERAL RESULTS:

The results of the various plans of sickness insurance as administered in the different countries of Europe, even in France, which put in operation only last July its special scheme, although it was the first to formulate the idea in 1794, are to our mind unsatisfactory to the doctor, to the patient and to the future of Medicine.

In every country having adopted it, sickness insurance and its allied activities, state administered, appear to be mainly national "grab" games, with the patients unceasingly demanding more attention for trivial ailments at diminishing cost. The insurance doctors, in many instances, accede to these demands by simply ordering the refilling of prescriptions, serving often as many as thirty patients an hour, and thereby increasing their income, while the insurance companies in two countries are now seeking to control even the medical colleges, and the end is not yet in sight, and in the meanwhile, the public pap is being milked to the limit of national economic endurance and capability.

None of these European plans, as now practiced, will be acceptable to this country, but already America has been inoculated with the germ-principle of collective protection against sickness.

PRESENT OUTLOOK:

As for Virginia, with its lack of alien immigration, and its little towns where social processes are bound up with intimate personal contacts, and even in its cities which are not yet so large but that a little of the fresh air of the countryside can still circulate in their streets, and where there still is preserved, along with traditional love of freedom, a strong trace of reverence for all life at its best, this new phase of State or Social medicine is not acceptable, and neither has, nor ever will have any appeal, either economic or professional.

However, as to the medical encroachments of the Federal Government into the states, there is more and increasing danger. Already, social medicine in some paternalistic form is no longer a vain delusion, for it now exists

and operates in every state in the union, if recent statistics are to be believed, for it is reported "that sixty-two per cent of the hospital beds in America today are under control of Federal, State and municipal authorities, and that seventy-one per cent of the people sick today in the United States are treated by the Federal, State, and municipal authorities," (January *Bulletin A. M. A.*). As sinister as this may seem, it is not yet "State Medicine," but it has the earmarks and the forbidding "appearance of evil," and portends something of what the future may hold for us, if we heed not the signs of the time. Surely, we will never have State Medicine in its present-day European vestments, but our younger profession to which we owe much, demands caution and preparedness of us, if it is to carry forward in the future our colors with high credit to us and themselves.

To meet these tendencies, and solve these difficulties, more scientific education and better business organization by physicians and organized health-service professions are absolutely necessary. If this be done, then this new agent of industrial civilization will become the medical profession's servant, rather than its overlord.

This, indeed, is an era of transitional and developmental tendencies, and requires special thought and study. To adjust these innovations, our profession must be not wholly obstructive, but acutely critical in its judgments and practice, holding fast always to its traditional standards of honorable and humanitarian service.

In the future, the County Medical Society, the basic unit of organized medicine, must serve not only for the scientific advancement of the profession, but for its economic protection as well.

Who can gainsay the declaration that, if ever we have "State Medicine" in any form, it will be because of the scientific and business inefficiency of the doctors themselves?

"To be early warned, is to be doubly panoplied."

J. A. H.

How Long Should Post-Graduate Medical Education Be?

The so-called post-graduate education of the doctors-in-the-field, after all is a system of keeping the mind in motion. As a distinguished teacher has said, of post-graduate edu-

cation, "it is the continued stimulation of the mature mind." Practitioners in the field, whether they are workers in the country districts, in small towns, in larger towns, or in cities, require and need to keep up the study of medicine throughout their career.

Keeping in touch with medical progress may be attained in a number of ways with more or less success. Practitioners may refresh their minds, may discover new facts, and may observe new processes of disease by periodically visiting a teaching center, or a leading hospital clinic where may be found a large daily program of work or a scheduled plan of clinical demonstration. Again, physicians at work in the field may regularly attend meetings of medical societies where may be heard the reading of papers by medical authors, who present papers of some interesting subject in medicine, surgery, and the specialties.

Physicians, again, who are active in daily work, and who each decade are getting farther away from the thousand-fold facts of the four-year-college-day of medical study, may find a method of keeping abreast of medical progress by the constant perusal and study of current medical publications. Journals, magazines, and textbooks afford such busy men means of acquiring a working knowledge of medical progress.

Besides, however, by the attendance upon medical centers, medical meetings, perusal and thoughtful reading of current medical literature, physicians, if they would make a life-long study of medicine, should keep a continued stimulation of the mind by a careful study of the cases that are passing through their hands. In this, the routine examinations of daily practice, one may find a rich field for advantageous post-graduate study. Intelligent and systematic inquiry into and an evaluation of the clinical material that comes to the hands of every practitioner of any degree makes for an education and brings about the finest performance of the medical practitioner.

News Notes

Dates Set for Roanoke Meeting.

The Council of the Medical Society of Virginia, at its meeting on February 17th, selected October 6th, 7th, and 8th for its sixty-second annual meeting in Roanoke. Headquarters

will be at the Patrick Henry Hotel. The committee in charge of arrangements for this meeting has been selected as follows:

General Chairman—Dr. W. L. Powell

Treasurer—Dr. F. A. Farmer

Secretary—Dr. Fred E. Hamlin

SUB-CHAIRMEN

SCIENTIFIC EXHIBITS	Dr. W. P. Jackson
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TRAP SHOOT	Dr. L. G. Richards
RECEPTION	Dr. J. W. Preston
PUBLICITY	Dr. K. D. Graves
LADIES	Mrs. John O. Boyd

Anything relative to arrangements for the meeting may be addressed to the chairman in charge of that particular activity.

The Medical Examining Board of Virginia

Held its regular semi-annual meeting in Richmond, Va., December 9-12, 1930.

At this meeting, the following thirty-four applicants were granted licenses to practice medicine in Virginia:

Dr. Edward H. Adams, Portsmouth, Va.
 Dr. George L. Adams, Bluefield, W. Va.
 Dr. John Marion Baber, Washington, D. C.
 Dr. Elijah Barber, Washington, D. C.
 Dr. Samuel A. Bonaffon, Wilmington, Del.
 Dr. Edwin W. Burton, University, Va.
 Dr. Francis B. Carter, University, Va.
 Dr. Elizabeth C. Cole, Sanatorium, Va.
 Dr. James L. Cornitcher, Danville, Va.
 Dr. Ernest D. Davis, Jr., Hampton Roads, Va.
 Dr. Andrew H. Dibble, Warrenton, Va.
 Dr. Ernest C. Downing, Washington, D. C.
 Dr. Richard C. Ellison, Washington, D. C.
 Dr. Harry G. Grant, Richmond, Va.
 Dr. Austin B. Green, Berkley, Va.
 Dr. Howard K. Harrison, Bristol, Tenn.
 Dr. Leonard I. Hoke, Quinwood, W. Va.
 Dr. Joseph Horwitz, Philadelphia, Pa.
 Dr. Walter S. Hunter, Wilmington, Del.
 Dr. Julius Doar Johnson, Danville, Va.
 Dr. Cleveland L. Jackson, Washington, D. C.
 Dr. Abin L. Lindall, Quantico, Va.
 Dr. Edgar A. Long, Jr., Washington, D. C.
 Dr. Robert W. Mance, Jr., Columbia, S. C.
 Dr. A. L. McLean, Richmond, Va.
 Dr. Frederick Pilcher, Jr., Richmond, Va.
 Dr. James Robert Porter, Washington, D. C.
 Dr. Clayton A. Robbins, Washington, D. C.
 Dr. John Terrell Scott, Lynchburg, Va.
 Dr. M. Rockwell Thompson, Washington, D. C.
 Dr. L. M. Thomas-Lyons, Bristol, Tenn.
 Dr. Hugh Alfred Watson, Richmond, Va.
 Dr. Charles Fremont West, Richmond, Va.
 Dr. Ernest Y. Williams, Washington, D. C.

The Tri-State Medical Association of the Carolinas and Virginia

Held its thirty-third annual meeting in Richmond, Va., February the 16th and 17th, under the presidency of Dr. W. B. Lyles, of Spartanburg, S. C. The morning of the first

day was given over to clinics in the various hospitals of the city, the presentation of papers commencing in the afternoon. The invited guests, Drs. Louis Hamman, Baltimore, and John R. Caulk, St. Louis, delivered addresses and held clinics for the members of the Association. Thirty-nine applicants for fellowship were favorably passed upon by the executive council.

Raleigh, N. C., was selected as the 1932 place of meeting, and Dr. Beverley R. Tucker, Richmond, Va., was elected president. The vice-presidents are Drs. Joseph F. Geisinger, Richmond, for Virginia; Dr. Douglas Jennings, Bennettsville, for South Carolina; and Dr. W. C. Ashworth, Greensboro, for North Carolina. Dr. James M. Northington, Charlotte, N. C., was re-elected secretary-treasurer. Drs. Edwin P. Lehman, University, Va., Donnell B. Cobb, Goldsboro, N. C., and J. Warren White, Greenville, S. C., were elected councilors for a term of three years. Councilors holding over are: Drs. DeWitt Kluttz, Washington, N. C., J. H. Cannon, Charleston, S. C., and H. J. Langston, Danville, Va., for two years; and Drs. R. E. Seibels, Columbia, S. C., Dean B. Cole, Richmond, Va., and C. C. Orr, Asheville, N. C., for one year.

Medical College of Virginia News.

Dr. Louis Hamman, associate professor of medicine at Johns Hopkins University, Baltimore, as a visitor and guest of the Tri-State Medical Association, convening in Richmond, February 16th and 17th, gave a clinic at the Memorial Hospital of the Medical College of Virginia. This was attended not only by members of the association but by students of the junior and senior classes of the college, school of medicine. On February 17th, Dr. Hamman made ward rounds from nine to eleven with Dr. William B. Porter's section in medicine.

Thirty-three hundred ninety-four visits by patients to the outpatient clinic at the Medical College of Virginia for January sets a new record in volume of service. The largest previous January was in 1930 when 3,142 visits were made by patients for treatment.

Dr. William P. Gilmer, graduate of the school of medicine, class of 1916, Medical College of Virginia, and Mrs. Gilmer were at the college on January 19th. Doctor Gilmer is practicing at Clifton Forge, Va.

Virginian Honored.

Dr. T. Duckett Jones, who is head of the research department at the House of the Good Samaritan, in Boston, has been chosen to head an intensive research project on rheumatic fever, which is to begin in a few months. By next summer, it is expected, a newly erected addition to the hospital will be given over to this work. The object of this work is to seek the cause and cure of rheumatic fever, which leads to heart disease.

Dr. Jones is formerly of Petersburg, Va., and is the son of Dr. and Mrs. J. Bolling Jones of that city. He graduated in medicine at the University of Virginia in 1923. After serving as an interne and medical resident physician at the University for two years, he spent the following year at the Massachusetts General Hospital, Boston, as a cardiac resident physician under Dr. Paul Dudley White, well-known heart specialist. Dr. Jones next taught medicine at the University of Virginia and then became a National Research Fellow in Medicine, which took him to England for a year's work at the University Hospital in London, where he had the privilege of studying with Sir Thomas Lewis. In October, 1928, he became connected with the Good Samaritan Hospital, where he was made director of the research department.

The American College of Physicians

Is to convene in Baltimore, March 23rd for its fifteenth annual clinical session, which will continue in that city through March 27th, after which an additional day, March 28th, will be spent in Washington, D. C., where a special program of clinics and inspection tours has been arranged under the auspices of the Medical Departments of the U. S. Army, Navy and Public Health Service, and Georgetown University. The College is to meet in Baltimore upon the invitation of the medical colleges of that city, the State and local medical societies, various Baltimore hospitals and civic societies. Hotel headquarters will be at the Lord Baltimore Hotel, while the Alcazar, Cathedral and Madison Streets, will be general headquarters, at which will be the registration of members, commercial exhibits and general sessions. A special program of entertainment for visiting ladies has been arranged.

Dr. Sydney R. Miller, Baltimore, is President of the College, Dr. Maurice C. Pincoffs, also of Baltimore, general chairman.

Requests for further information or programs should be addressed to the Executive Secretary, Mr. E. R. Loveland, 133-135 South 36th Street, Philadelphia.

News From University of Virginia, Department of Medicine.

At the meeting of the University of Virginia Medical Society, on January 26th, Dr. Oscar Swineford read a paper on "Pathological Physiology of Clinical Allergy," and Dr. Calvin T. Burton read a paper on "Avertin Anaesthesia."

On February 9th, Dr. B. P. Babkin, Research Professor of Physiology at McGill University, addressed the faculty and students of the School of Medicine on the subject of "Nervous and Humoral Control of Gastric Secretion."

On February 16th, Dr. John R. Caulk, Professor of Urological Surgery, at Washington University, St. Louis, spoke before the University of Virginia Medical Society on the subject of "Stone in the Bladder."

Dean J. C. Flippin attended the meeting of the Council on Medical Education and Hospitals in Chicago from February 16th to 18th.

Dean J. C. Flippin and Dr. L. T. Royster attended the White House Conference on Child Health and Protection on February 19th to 21st.

Dr. B. F. Cozart,

Of the class of 1930, Medical College of Virginia, has located in Reidsville, N. C., where he is engaged in general practice.

The Cooperative Clinic Tour of Europe,

Announcement of which appears in our advertising pages, promises one of the most pleasant ways for a summer vacation of fifty-eight days, for \$895.00—a remarkably low figure for what is given. The itinerary has been prepared by Benjamin W. Van Riper, vice-president of the Travel Guild, the man who arranged the trip under Dr. Mayo in 1925, when several hundred physicians and their wives made up a similar party. And the ladies are wanted again on this trip.

Arrangements have been made for attendance upon a number of the most interesting

medical and surgical clinics abroad. The crowd will be congenial and you will feel well repaid for the money spent. Any inquiries sent the MONTHLY office will have prompt attention.

Registered for Post-Graduate Course.

The following is a list of physicians, recently announced as registered for the Fifth Annual Spring Graduate Course in Ophthalmology, Otology, Rhinology, Laryngology, Facio-Maxillary Surgery, Oral Surgery, Bronchoscopy, and Esophagoscopy of the Gill Memorial Eye, Ear, and Throat Hospital, to be held March 23-29, 1931, at Roanoke, Va.

Dr. E. Vermillion, Welch, W. Va.
 Dr. J. D. Williams, Ashland, Ky.
 Dr. Chas. P. White, Wilmington, Del.
 Dr. C. B. Wylie, Morgantown, W. Va.
 Dr. W. M. Pierson, Wilmington, Del.
 Dr. W. F. Elliott, Lincolnton, N. C.
 Dr. E. C. Hart, Parkersburg, W. Va.
 Dr. R. W. Petrie, Lenoir, N. C.
 Dr. N. D. Harvey, Providence, R. I.
 Dr. C. M. Sandusky, Jacksonville, Fla.
 Dr. H. H. Veon, Parkersburg, W. Va.
 Dr. J. R. Vermillion, Princeton, W. Va.
 Dr. E. P. Odeneal, Gulfport, Miss.
 Dr. W. J. Bristow, Columbia, S. C.
 Dr. M. R. Mobley, Florence, S. C.

Celebration of Two Hundredth Anniversary of the Birth of George Washington.

All organizations and institutions of whatever character are urged to plan for a "George Washington Year" in 1932. This celebration will last from Washington's Birthday, February 22, 1932, to Thanksgiving Day, November 24, 1932.

The National George Washington Bicentennial Commission, Washington Building, Washington, D. C., will gladly send literature and suggestions for local programs to any committee, organization or group that will write for them.

Service to Our Readers.

The MONTHLY and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

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Perhaps you want a certain kind of instrument which is not advertised in the MONTHLY and do not know where to secure it; or do not know where to obtain some automobile supplies you need. This Service Bureau will give you the information.

Whenever possible, the goods will be advertised in our pages, but if they are not, we urge you to ask the MONTHLY about them, or write direct to the Cooperative Medical Advertising Bureau, 535 N. Dearborn St., Chicago, Ill.

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Hospital for Treatment of Intestinal Ailments.

Through the beneficence of a group of public spirited citizens there has been established in New York City an institution which is unique in that it is to be particularly devoted to the diagnosis and treatment of intestinal diseases. At present there exists no other such institution in the entire United States. The building has just been completed and was officially opened with the new year. There will be facilities for colonic irrigations, and most of the modern electrical treatments now in use. The institution is to be known as the Montague Hospital for Intestinal Ailments. The equipment is thoroughly modern in every respect.

The Medical Director of the hospital is Dr. J. F. Montague, who occupies a position in the medical profession as an authority on intestinal ailments.

He is a member of the New York county and state medical associations and many other national medical societies.

The French National Committee for the Prevention of Blindness

Was recently organized in Paris. Its aims are similar to those of the American National Society for the Prevention of Blindness, through which organization this announcement was made. Mr. Carris, Managing Director of the latter, states that, "As in the United States, the scientific program in France will be directed along three main lines: (1) prevention of blindness from infectious diseases; (2) prevention of industrial eye accidents; and (3) conserving the remaining eyesight of visually handicapped school children.

"National groups, dedicated to the important task of conserving vision, probably will be established in a number of other countries

within the next few years. Preliminary efforts toward this end are being stimulated by the International Association for Prevention of Blindness."

The presidency of the newly formed French Committee has been accepted by Dr. F. de Lapersonne, one of the most distinguished ophthalmologists in Europe, who is also professor emeritus of the University of Paris, and president of the International Association for Prevention of Blindness. Other members of the Committee include thirty of the best known leaders in social work and public health in France.

Dr. Stanton K. Livingston,

Of the class of '25, University of Virginia, Department of Medicine, recently located in Washington, D. C., is taking up special work in osteomyelitis during the winter at Hines Hospital, Hines, Ill., but plans to return to Washington in July.

Commander Micajah Boland, M. C., U. S. Navy,

A member of the Medical Society of Virginia and formerly stationed in Virginia waters, is now District Medical Officer, ninth Naval District, which includes thirteen states of the Middle West, and is also senior medical officer of the Naval Training Station at Great Lakes, Illinois.

New York Post-Graduate Medical School and Hospital Unites With Columbia University.

The incorporation in the educational system of Columbia University of the New York Post-Graduate Medical School and Hospital, after nearly fifty years as an independent institution, was recently announced. The agreement between the two institutions will be effective July 1, 1931. Dr. Arthur F. Chace, president of the New York Post-Graduate Medical School and Hospital, stated that this would make the Post-Graduate an integral part of the Columbia University teaching system and, in the future, the center of a comprehensive program of post-graduate medical teaching sponsored by Columbia.

It is interesting to note that during the forty-eight years of its existence, 27,324 physicians have received instruction at the Post-Graduate School.

Dr. Guy Hinsdale,

Medical Director of White Sulphur Springs, W. Va., has returned from a three months' visit to London and Paris.

The American Journal of Cancer

Made its first appearance in January, 1931. It will be not merely a continuation of the former *Journal of Cancer Research*, but will represent a far wider field. One of the important new features of the journal will be a complete abstract service covering the subject of cancer in all its phases and relationships. Dr. Francis Carter Wood, as editor, has associated with himself an editorial staff of prominent physicians from the various specialties. The journal is the official organ of the American Association for Cancer Research and The American Society for the Control of Cancer. It will appear quarterly—January, April, July and October—at the subscription price of \$5.00 a year. The business office is 654 Madison Avenue, New York City.

Dr. J. McCaw Tompkins,

Richmond, was recently re-elected vice-president of the Westmoreland Club of this city, for the ensuing year.

Dr. Susan Wilson Field,

Of State Teachers College, Farmville, Va., returned recently from an interesting visit to the Mayo Clinic, Rochester, Minn.

Dr. Allen F. Voshell,

University, Va., has been elected a member of the executive committee of the 1932 lacrosse committee for the Olympic games at Los Angeles.

Patients Unharmed in Sanatorium Fire.

Flames starting around an overheated furnace swept through the basement and first floor of the main building at Mount Regis Sanatorium, near Salem, Va., in the early morning of February 23rd. The patients were transferred to other buildings and no one was injured, but the damage to the building by fire and water was estimated at about \$10,000. Work of repairing the building will be started at once.

The Radiology Society of North Carolina

Was organized at Durham, N. C., in February, and the following were elected officers for the ensuing year: President, Dr. J. K. Pepper, Winston-Salem; vice-president, Dr. W. T. Rainey, Fayetteville; and secretary-treasurer, Dr. Major I. Fleming, Rocky Mount.

Dr. A. M. Showalter,

Christiansburg, Va., was elected grand master of the grand lodge, A. F. and A. M. of Virginia, at the closing session of the 153rd annual communication of the grand lodge in Richmond, in February.

Dr. William Edward Fitch,

For several years at Buffalo Lithia Springs, Va., and recently medical director for the Bedford Springs Hotel and Baths at Bedford Springs, Pa., has recently accepted the position as consulting medical hydrologist and medical director of the French Lick Spa, French Lick, Ind.

The National Council to Move to Larger Offices.

Owing to the expansion of the National Health Council's work and the development of its numerous activities, it has become necessary for that organization to secure larger office quarters. So the headquarters of the Council and those of nine of its constituent members will be moved, April 1st, from 370 Seventh Avenue, its home since its organization in 1921, to the new Nelson Tower Building, 450 Seventh Avenue.

The National Health Council and its member organizations which will occupy the 11th to the 15th floors inclusive are: American Child Health Association, American Heart Association, American Public Health Association, American Social Hygiene Association, National Committee for Mental Hygiene, National Organization for Public Health Nursing, National Society for the Prevention of Blindness, National Tuberculosis Association, and Foundation for Positive Health.

Married.

Dr. Nelson Mercer, Richmond, Va., and Miss Jeannette Bahn, of Maryland, in Washington, D. C., December 8th.

Dr. Caleb S. Stone, Farmville, Va., and Miss Margaret S. Carter, University, Va., January 31st.

Dr. William E. Chapin, Richmond, Va., and Miss Nancy Berry, of Prince George County, Va., recently.

Dr. William Latimer Cooke, of the class of '29, Medical College of Virginia, and Miss Sally Ann Boxley, Roanoke, Va., February 10th. They are living at Beckley, W. Va.

Dr. John Randolph Tucker, class of '28, Medical College of Virginia, and Miss Florence Clifton Saunders, both of Williamsburg, Va., February 14th.

The Annual Report of the Gorgas Memorial Institute

Shows that the Institute has not only maintained its program of health education but has watched with satisfaction a growth in certain aspects of it. Some of their accomplishments are: a most successful Second Annual Gorgas Essay Contest; a continued demand for the Mosquito Control advice; increased interest in the health service to newspapers and classrooms; and last, and perhaps most important, an inspirational year of achievement in scientific research in the Gorgas Memorial Laboratory in Panama. Dr. Cary T. Grayson is President, and Dr. Franklin Martin, Chairman of the Board, of the Institute.

For a detailed summary of the work of the Gorgas Memorial Laboratory, write to the Gorgas Memorial Institute, 1331-3 G St., N. W., Washington, D. C.

Dr. Thomas R. Boggs,

Baltimore, Md., addressed the Lynchburg and Campbell County (Va.) Medical Society on February the 2nd, on the subject of Pneumonia. The meeting was well attended and the paper was excellent.

The Southwestern Virginia Medical Society

Will hold its semi-annual meeting at Wytheville, on March 18th and 19th. Invited guests for the meeting are Dr. John A. Kolmer, of Philadelphia, and Drs. D. C. Smith and John A. Hornsby, of University, Va. Other interesting papers will also be presented. Dr. E. G. Gill, Roanoke, is president, Dr. E. M. Chitwood, Wytheville, vice-president, and Dr. A. M. Showalter, Christiansburg, secretary.

Dr. R. D. Bates,

Newtown, Va., was re-elected president of the board of directors of the Bank of Essex, Tappahannock, Va., at the annual meeting held recently.

Officers of Winchester (Va.) Hospital.

At a meeting of the medical staff of the Winchester Memorial Hospital, early in February, Dr. Robert M. Glass, Winchester, was elected president, succeeding Dr. Hunter H.

McGuire after a service of nearly thirty years, or since the organization of the hospital. Dr. Charles R. Anderson, Winchester, was elected vice-president, and Dr. J. E. Harris, also of Winchester, was re-elected secretary-treasurer.

Civil Service Examinations.

The U. S. Civil Service Commission, Washington, D. C., announces open competitive examinations for the following positions, applications to be rated as received until June 30th: Medical officer, associate medical officer and assistant medical officer in general medicine and surgery; chief nurse and head nurse for Indian Service, and graduate nurse and graduate nurse, visiting duty, for various services.

Dr. Frank Hancock,

Norfolk, Va., has resigned as health commissioner for Norfolk, which place he took when Dr. P. S. Schenck was forced to give up the work on account of his health. Dr. J. Jett McCormick has been appointed in Dr. Hancock's place.

Major Benjamin B. Warriner, M. C., U. S. A.,

After a service at Langley Field, Hampton, Va., has been transferred to the School of Aviation Medicine at Brooks Field, Texas.

Two Virginians Graduate From Army Medical School.

Two Virginians were among those who graduated from the Army Medical School, Washington, D. C., the last of January. They are Lieutenant Charles L. Baird, of Buckingham County, and Lieutenant Samuel L. Cooke, of Pittsylvania County. Both were graduated from the Medical College of Virginia, Richmond, in 1929.

The Most Healthful Year on Record in New York.

The New York State Department of Health announces that never in the fifty years of existence has the health of the people of New York State been better than in 1930. This statement is based on figures compiled by the Division of Vital Statistics of the Department of Health. The total number of deaths last year was almost 7,000 less than in 1929, there were fewer deaths from the important diseases of childhood, and the infant mortality was the lowest on record. New minimum death rates were established for tuberculosis and maternal mortality was exceptionally

low. Diseases of the heart though still at the head of the mortality list, caused fewer deaths than in 1929, also 1928, and 1926.

Interesting Figures Regarding Hospitals.

Dr. Paul H. Fesler, superintendent of University of Minnesota Hospitals and president-elect of the American Hospital Association, recently gave a most interesting radio talk on hospitals, under the auspices of the President's Emergency Committee for Employment. Among the points brought out are that hospitals rank as the fifth industry in the country from the point of view of capital invested; that one out of ten of our population of 120,000,000 uses the hospital each year; that there are 7,000 hospitals in this country containing 900,000 beds, representing an investment of more than three billion dollars. Statistics show that more than half of our hospital beds are in mental institutions, most of which are over-crowded. While there is a surplus of hospital beds in certain centers of the 3,078 counties in the United States, there are only 479 county hospitals. Mr. Fesler cited the need for psychopathic hospitals in some states, for additional facilities for tuberculous patients and the remodeling of some of the institutions now used for this class, hospitals for the convalescent and chronic patient, and greater hospital facilities for crippled children in many states. He suggests that now is the time for building and remodeling programs wherever desirable and necessary, while the cost of material is low and labor plentiful.

Dr. E. N. Lillard,

Recently at Nokesville, Va., announces his removal to Sperryville, Va.

Dr. Horsley to be Honored.

It is announced that Dr. John Shelton Horsley, Richmond, Va., distinguished surgeon of this State, will be awarded the degree of doctor of laws by the University of Richmond, at its commencement exercises in June. It is stated that he was selected principally because of his contribution to the science of surgery, and we feel that it is a well deserved honor.

Doctors Suffer Losses From Fire.

As a result of the big fire at Hillsville, Va., in the early morning of January the 29th, large losses were sustained by Dr. C. B. Nuckolls in the loss of his drug store, and by Drs. John A. Tipton, W. R. Gardner, and J.

Glenn Cox in the loss of their offices, records and equipment.

Dr. Edward W. Gray,

Richmond, Va., of the class of '26, Medical College of Virginia, after practicing for several years in this city, has accepted a position with the Hospital of the E. I. Du Pont de Nemours Company at Carney's Point, N. J.

Dr. Thomas C. Lawford,

Of the class of '29, University of Virginia, Department of Medicine, upon completing his internship at the Orange Memorial Hospital, Orange, N. J., joined the staff of Elizabeth Buxton Hospital, Newport News, Va.

Schools for Mothers in Foreign Countries.

In Breslau all mothers subject to sickness insurance, and in Cologne mothers-to-be receiving unemployment benefits, must attend a mothers school where they are taught how to care for their children. Recently a school for teaching mothers the proper care of their children, particularly the babies, was established in Vienna, and another in the City of Rosario de Santa Fe, Argentina.

For Rent—

Doctor's office on first floor of Piedmont Apartment Building, Culpeper, Va. Splendid opening. Apply to Box 336, Culpeper, Va. (Adv.)

Obituary Record

Dr. Aaron Kemper Gilmer,

Lebanon, Va., died at the hospital in Abingdon, Va., February 18th, death being due to heart trouble and pneumonia. He was born September 23, 1873, and graduated from the Medical College of Virginia in 1896. He was a member of the Russell County Medical Society and was a true representative of the old family physician who devoted his life to the alleviation of the suffering of humanity. He is survived by his wife and three children.

s. c. c.

Dr. James Nimmo Ellis,

Former Virginian and for some years a prominent physician of Atlanta, Ga., died February 11th, after an illness of nearly a year. He was sixty-seven years of age and a graduate of the Medical College of Virginia in the class of 1889. He is survived by two brothers and a sister, his wife having died several years ago.

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